

Baykeeper NOI to SFPUC



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March 6, 2024

**SENT VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

London Breed
Mayor of San Francisco
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San Francisco, California 94102

David Chiu
City Attorney of San Francisco
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San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
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Joel Prather
Acting Asst. Gen. Manager, Wastewater Enterprise
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
San Francisco, California 94102

Angela Calvillo
Clerk of the Board of Supervisors
San Francisco City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, California 94102

Re: Notice of Violation and Intent to File Suit Under the Clean Water Act

Dear Mayor Breed, Mr. Herrera, Mr. Prather, Mr. Chiu, and Board of Supervisors:

I am writing on behalf of San Francisco Baykeeper (“Baykeeper”) regarding violations of the Clean Water Act¹ (“CWA” or “Act”) and the National Pollution Discharge Elimination System (“NPDES”) Permit² (“Bayside Permit” or “Permit”) for the Southeast Water Pollution Control Plant, North Point Wet Weather Facility, Bayside Wet Weather Facilities, and Wastewater

¹ Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.*

² NPDES Permit No. CA0037664, San Francisco Bay Regional Water Quality Control Board (“Regional Board”) Order No. R2-2013-0029.

Baykeeper NOI to SFPUC

Collection System (“Bayside Facilities”) operated by the San Francisco Public Utilities Commission (“SFPUC”), an agency of the City and County of San Francisco (“City”). The Bayside Permit lists the Bayside Facilities’ address as 750 Phelps Street, San Francisco, California 94124. The purpose of this letter (“Notice Letter”) is to put the City and SFPUC on notice that, at the expiration of sixty days from the date the Notice Letter is sent,³ Baykeeper intends to file a “citizen suit” action against the City and SFPUC in U.S. Federal District Court. The civil action will: (1) allege ongoing violations of the Act and the Bayside Permit at the Bayside Facilities, including but not limited to unlawful discharges to San Francisco Bay, Mission Creek, and Islais Creek (“Receiving Waters”) during combined sewer discharges (“CSDs”) and overflows (“CSOs”), causing violations of water quality standards for Receiving Waters, impairing the Receiving Waters’ designated Beneficial Uses, failing to comply with the federal Combined Sewer Overflow Policy as implemented by the Permit, and failing to revise operating protocols as necessary to comply with the Bayside Permit; and (2) seek judicial imposition of injunctive relief and civil penalties.

The Act is a strict liability statute. To establish liability under section 301 of the Act, Baykeeper must only establish that the City and SFPUC have (i) discharged, *i.e.*, added, (ii) a pollutant (iii) to navigable waters (iv) from a point source (v) in violation of an NPDES permit. *See Comm. to Save Mokelumne River v. E. Bay Mun. Util. Dist.*, 13 F.3d 305, 308 (9th Cir. 1993), *cert. denied*, 513 U.S. 873 (1994); *Nat’l Wildlife Fed. v. Gorsuch*, 693 F.2d 156, 165 (D.C. Cir. 1982). As described in detail below, the City and SFPUC are liable for ongoing violations of the Act as a consequence of the Bayside Facilities’ failure to comply with the Bayside Permit’s Discharge Prohibitions, Receiving Water Limitations, and CSO Controls. Each violation of any term or condition of the Bayside Permit is an independent violation of the Act. As explained below, the City and SFPUC are liable under the Act for daily, date-specific, monthly, and annual violations of the Bayside Permit since March 6, 2019. 33 U.S.C. §§ 1311(a), 1319(d); 40 C.F.R. § 19.4.

This Notice Letter contains sufficient information to permit the City and SFPUC to understand and ameliorate alleged violations, and to comply with applicable regulations. *See* 40 C.F.R. § 135.3. The Notice Letter includes, without limitation: (1) citations to the Act’s relevant mandates, and descriptions of the statutory permitting scheme; (2) citations to specific provisions in the Bayside Permit that have been and are being violated by the City and SFPUC; (3) a description of the City and SFPUC’s combined sewer system and the Bayside Facilities; (4) descriptions of the impacts of the City and SFPUC’s discharges on the Receiving Waters and their Beneficial

³ Section 505(b) of the CWA requires that sixty days prior to initiating a civil action under Section 505(a), 33 U.S.C. § 1365(a), a citizen must give notice of their intention to file suit to the alleged violator, the Administrator of the United States Environmental Protection Agency (“U.S. EPA”), the Regional Administrator of the U.S. EPA, the Executive Officer of the water pollution control agency in the State in which the violations occur, and, if the alleged violator is a corporation, the registered agent of the corporation. 33 U.S.C. § 1365(b); 40 C.F.R. § 135.2.

Baykeeper NOI to SFPUC

Uses; and (5) specific date(s) and locations of discharges violating the Bayside Permit, and timeframes during which non-discharge violations took place.

I. BACKGROUND

A. San Francisco Baykeeper

Baykeeper is a non-profit public benefit corporation organized under the laws of California. Baykeeper's mission is to defend San Francisco Bay from the biggest threats, and hold polluters accountable to create healthier communities and help wildlife thrive. Baykeeper has over five thousand members and supporters who use and enjoy San Francisco Bay and connected surface waters for various recreational, educational, and spiritual purposes. At the behest of its members, Baykeeper has sought to protect and promote water resources that are swimmable, drinkable, fishable, and sustainable. To further this mission, Baykeeper actively seeks federal and state implementation of the Act.

Members of Baykeeper reside in San Francisco, and near San Francisco Bay and use the waters in and near Mission Creek, and Islais Creek, as well as other parts of the Bay that are impacted by SFPUC and the City's failure to comply with the Act. The Bayside Facilities persistently discharge pollutants into the Receiving Waters in violation of the Act and the Bayside Permit. Baykeeper members use the Receiving Waters to bird watch, view wildlife, kayak, hike, bike, walk, run, and sightsee, as well as for aesthetic enjoyment. Additionally, Baykeeper members use local waters to engage in educational and scientific study through pollution and habitat monitoring and restoration activities. As explained herein, the Bayside Facilities' historic and ongoing discharge of pollutants into the Receiving Waters in violation of the Act and Bayside Permit have adversely affected, are adversely affecting, and continue to adversely affect the interests of Baykeeper's members.

B. Responsible Entities for Combined Sewer System

The City and SFPUC are the owners and operators of the Bayside Facilities. The City and SFPUC are responsible for operating and maintaining the Bayside Facilities. Operating and maintaining the Bayside Facilities includes tasks such as collecting and conveying wastewater and stormwater through the Bayside Facilities, providing treatment for combined sewer flows prior to discharge into Receiving Waters, conducting routine maintenance, cleaning and inspecting the Bayside Facilities, and responding to citizen complaints related to the combined sewer system. Further, the City and SFPUC are responsible for preventing discharges from the Bayside Facilities that violate the Bayside Permit.

Baykeeper NOI to SFPUC

1. The City and County of San Francisco

The City is a municipality incorporated under the laws of the State of California. The City has offices at 1 Dr. Carlton B. Goodlett Place, San Francisco, California 94102. The current Mayor is London Breed. San Francisco Charter sec. 3.100 provides that “[t]he Mayor shall enforce all laws relating to the City and County, and accept service of process on its behalf” and “[t]he Mayor shall have responsibility for . . . [r]eceipt and examination of complaints relating to the administration of the affairs of the City and County, and timely delivery of notice to the complainant of findings and actions taken.”

2. San Francisco Public Utilities Commission

SFPUC is a department of the City. The department’s mission is “to provide [its] customers with high quality, efficient and reliable water, power, and sewer services in a manner that is inclusive of environmental and community interests, and that sustains the resources entrusted to [its] care.” SFPUC has offices at 525 Golden Gate Avenue, 13th Floor, San Francisco, California 94102. The current General Manager of SFPUC is Dennis J. Herrera and the Acting Assistant General Manager for the Wastewater Enterprise is Joel Prather.

II. San Francisco’s Combined Sewer System and Clean Water Act Permits

A. The Combined Sewer System

The City, through SFPUC, operates two distinct combined sewer systems that convey, store, treat, and discharge combined sewage and stormwater flows: the Bayside Facilities, which serve approximately 580,000 residents of eastern San Francisco and portions of Brisbane and Daly City; and the “Oceanside” or “Westside” facilities, which serve a population of approximately 250,000 residents of western San Francisco and a small portion of Daly City. Only the Bayside Facilities located within the City operate under the Bayside Permit and are at issue here. *See* Permit, Fact Sheet at F-4.

1. Relevant History

The Bayside Facilities comprise approximately 600 miles of pipe, and seven major and eleven minor pump stations, the Southeast Plant, the North Point Facility, and the “Bayside Wet Weather Facilities,” which consist of large storage/transport structures. Permit, Fact Sheet at F-4. The Southeast Plant and North Point Facility were originally constructed in 1951. SFPUC, San Francisco Wastewater Long Term Control Plan Synthesis (2018) at 10 (“Long Term CSO Control Plan Synthesis”). In 1967, the City published a “Characterization and Treatment of Combined Sewer Overflows Report,” which concluded that separation of stormwater and sewer flows was

Baykeeper NOI to SFPUC

“not advised because it was anticipated to only provide reductions of some constituents, namely in biological oxygen demand and nutrients, whereas treatment of combined flows would provide greater pollution control.” *Id.*

In 1971, the San Francisco Master Plan for Waste Water Management recommended “a system-wide approach to minimize [wet weather] overflows” by “balanc[ing] system storage and treatment to reduce the number of wet weather discharges at the lowest cost, using a combination of pumps, pipes, storage reservoirs, treatment plants, and outfalls.” Long Term CSO Control Plan at 10–11. After the passage of the CWA, the City revised the Master Plan and developed a programmatic environmental impact report and environmental impact statement for its implementation. *Id.* At the direction of the Regional Board, the City studied and recommended “the appropriate frequency of overflows based on several considerations, including the [1975] Basin Plan’s water quality objectives and an evaluation of cost-effective combinations of storage, outfall location and length, and treatment.” *Id.* at 12 (internal quotations omitted). The Regional Board then issued Order R2-79-67 providing design criteria for construction of the storage pipes and boxes, pump stations, treatment facilities, and outfall structures “deemed necessary by the Regional Water Board to protect beneficial uses during wet weather events” given long term annual average overflow frequencies of fifteen total discharges across three drainage basins. *Id.* at 13. Full implementation of the Master Plan, including updated treatment facilities at the Southeast Water Pollution Control Plant, was completed in 1997. *Id.* at 14.

2. Current Operations

During dry weather, the Bayside Wet Weather Facilities transport wastewater to the Southeast Plant, located on Phelps Street at Jarrold Avenue near the Islais Creek Channel, for primary and secondary treatment. *Id.* at F-5. When wet weather adds stormwater to the wastewater flows, the Bayside Wet Weather Facilities transport flows exceeding the Southeast Plant’s capacity to the North Point Facility, located on Bay Street near The Embarcadero, which provides primary treatment of combined wastewater and stormwater. *Id.* The Bayside Wet Weather Facilities can store an additional 120 million gallons of combined wastewater and stormwater. *Id.*

The Southeast Plant has a dry weather design capacity of 85.4 million gallons per day (MGD). Permit, Fact Sheet at F-5. Treatment consists of coarse and fine bar screens and grit removal, primary sedimentation tanks, pure oxygen aeration basins, secondary clarifiers, chlorination using sodium hypochlorite, and dechlorination using sodium bisulfite. *Id.* During dry weather, all wastewater receives secondary treatment before being discharged to Lower San Francisco Bay through a deepwater outfall (Discharge Point No. 001) at Pier 80, immediately north of the Islais Creek Channel. *Id.* at F-6. During wet weather, the Southeast Plant is designed to fully treat up to 150 MGD of combined wastewater and stormwater, and provide only primary treatment and disinfection to another 100 MGD. *Id.* at F-5. Up to 140 MGD of wet weather secondary-treated

Baykeeper NOI to SFPUC

effluent then discharges to the Quint Street shallow water outfall (Discharge Point No. 002) within Islais Creek, while up to 100 MGD of disinfected primary-treated effluent mixed with at least 10 MGD of secondary-treated effluent discharges to Discharge Point No. 001. *Id.*

During wet weather, the North Point Facility provides primary treatment for up to an additional 150 MGD of combined wastewater and stormwater. Permit, Fact Sheet at F-5. Treatment technologies include bar screens, sedimentation tanks equipped with skimmers, sodium hypochlorite injection, and dechlorination using sodium bisulfite. *Id.* When necessary to prevent or mitigate combined sewer overflows in the Central and Southeast Drainage Basins, the North Point Facility discharges primary-treated effluent to Central San Francisco Bay through four deepwater outfalls, Discharge Point Nos. 003 and 004 at the end of Pier 33 and Discharge Point Nos. 005 and 006 at the end of Pier 35. *Id.* at F-6.

Wet weather consistently overwhelms the combined sewer system's treatment and storage capacity. According to the Bayside Permit, "[i]n the event that the capacities of the Southeast Plant, North Point Facility, and storage/transport structures are exceeded, the combined wastewater receives the equivalent of primary treatment in the storage/transport structures and is discharged to San Francisco Bay through any one of 29 shoreline combined sewer discharge structures." Permit, Fact Sheet at F-5. The treatment allegedly provided by the Bayside Wet Weather Facilities "consists of settling solids with a series of baffles and weirs that also remove floatable materials prior to discharge." *Id.*

3. Bayside Combined Sewer Discharge Outfalls

The 29 Bayside CSD outfalls discharge from three hydraulically connected drainage basins: the North Shore Drainage Basin, the Central Drainage Basin, and the Southeast Drainage Basin. Permit at 1–3. The North Shore Drainage Basin contains CSD Nos. 009 (Baker Street), 010 (Pierce Street), 011 (Laguna Street), 013 (Beach Street), 015 (Sansome Street), and 017 (Jackson Street). *Id.* at 1–2. The Central Drainage Basin contains CSD Nos. 018 (Howard Street), 019 (Brannan Street), 022 (Third Street), 023 (Fourth Street North), 024 (Fifth Street North), 025 (Sixth Street North), 026 (Division Street), 027 (Sixth Street South), 028 (Fourth Street South), 029 (Mariposa Street), 030 (20th Street), 030A (22nd Street), 031 (Third Street North), 031A (Islais Creek North), 032 (Marin Street), 033 (Selby Street), and 035 (Third Street South). *Id.* at 2–3. The Southeast Drainage Basin contains CSD Nos. 037 (Evans Avenue), 038 (Hudson Avenue), 040 (Griffith Street South), 041 (Yosemite Avenue), 042 (Fitch Street), and 043 (Sunnydale Avenue). *Id.* at 3.

In the North Shore Drainage Basin, CSD No. 009 discharges to Marina Beach⁴, CSD No. 011

⁴ CSD No. 010 (Pierce Street) was decommissioned in May 2021 due to "poor condition." Letter from Regional Board to SFPUC (July 21, 2023) at 2. SFPUC modeling indicates that CSD flows previously

Baykeeper NOI to SFPUC

discharges to Yacht Harbor #2, and CSD Nos. 013–017 discharge directly to Central San Francisco Bay. Permit at 1–2. According to the Bayside Sensitive Areas Report, CSDs in the North Shore Drainage Basin discharge approximately 34.3 MGD of minimally-treated combined sewer effluent over the course of three CSO events in a typical year. SFPUC, Bayside Sensitive Areas Report (2018) at 15. The Bayside Sensitive Areas Report indicates that primary contact recreation, including swimming and wading, occurs at Crissy Field East Beach near CSD No. 009. *Id.* at 13.

In the Central Drainage Basin, CSD No. 018 discharges directly to Central San Francisco Bay, CSD No. 019 discharges directly to Lower San Francisco Bay, CSD Nos. 022–028 discharge to Mission Creek, CSD Nos. 029, 030, and 030A discharge to the Central Basin, and CSD Nos. 031–035 discharge to Islais Creek. Permit at 2–3. According to the Bayside Sensitive Areas Report, CSDs in the Central Drainage Basin discharge approximately 1,222 MGD of minimally-treated combined sewer effluent over the course of twelve CSO events in a typical year. Bayside Sensitive Areas Report at 21. The Bayside Sensitive Areas Report indicates that kayaking occurs throughout Mission and Islais Creeks, near CSD Nos. 022–028 and 031–035. *Id.* at 13.

In the Southeast Drainage Basin, CSD Nos. 037 and 038 discharge to India Basin, CSD Nos. 040 and 042 discharge to the South Basin, and CSD No. 041 discharges to Yosemite Creek. Permit at 3. According to the Bayside Sensitive Areas Report, CSDs in the Central Drainage Basin discharge approximately 0.01 MGD of minimally-treated combined sewer effluent over the course of one CSO event in a typical year. Bayside Sensitive Areas Report at 29. The Bayside Sensitive Areas Report indicates that primary contact recreation, including wind surfing and wading, occurs in the Candlestick Point State Recreation Area near CSD No. 043. *Id.* at 13.

B. Bayside NPDES Permit**1. The NPDES Permit Program**

The Act is the primary federal statute regulating the protection of the nation’s water. The Act aims to prevent, reduce, and eliminate the discharge of pollution in order to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To accomplish this goal, Section 301(a) prohibits the discharge of any pollutant into waters of the United States unless the discharge complies with other enumerated sections of the Act, including

discharging through CSD-010 “primarily shift to the nearby Baker Street CSD outfall to the west, with some flows also discharging through the nearby Laguna Street CSD outfall to the east,” and that “the outfall closure could increase flooding from about 0.1 feet to 0.4 feet (about 4 inches) during a 5-year 3-hour storm” and from about 1.1 feet to 1.3 feet (about 2 inches) during a 100-year 3-hour storm.” *Id.* at 3. Extensive flooding did occur in the North Shore Basin on October 24, 2021 and December 31, 2022. *See* Table 4.

Baykeeper NOI to SFPUC

the prohibition on discharges not authorized by, or in violation of, the terms of a NPDES permit issued pursuant to section 402(b). 33 U.S.C. §§ 1311, 1342(b). The Act requires all point source discharges of pollutants to waters of the United States be regulated by an NPDES permit. *Id.*; *see also* 40 C.F.R. § 122.26(c)(1).

Compliance with the Bayside Permit⁵ constitutes compliance with the Act. 33 U.S.C. § 1342(k). Conversely, a permittee that fails to comply with the terms and conditions of its permit is liable for violations of the Act. *Nw. Env't Advocs. v. City of Portland*, 56 F.3d 979, 988, 986 (9th Cir. 1995) (“[T]he plain language [of the CWA] authorizes citizens to enforce *all* permit conditions.” (emphasis in original)); *Ecological Rights Found. v. Pac. Lumber Co.*, 230 F.3d 1141, 1151 (9th Cir. 2000) (finding that “the Clean Water Act allows citizen suits based on violations of any conditions of an NPDES permit, even those which are purely procedural.”); *see also* Permit at 7 (“Any sanitary or combined sewer discharge of untreated or partially-treated wastewater to waters of the United States not expressly [sic] authorized by this Order is prohibited.”)

a. The Combined Sewer Overflow Control Policy

Regulations governing CSOs were promulgated by the U.S. EPA in 1994 as the Combined Sewer Overflow Control Policy (“CSO Control Policy”), 59 Fed. Reg. 18688–98. In 2000, the Wet Weather Water Quality Act mandated that “[e]ach permit . . . for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy.” 33 U.S.C. § 1342(q)(1). The CSO Control Policy prohibits any CSO in dry weather and sets limits on wet weather CSOs to protect the beneficial uses of receiving waters. The CSO Control Policy’s technology-based requirements include nine “minimum control measures”: (1) Proper operation and regular maintenance programs for the sewer system; (2) Maximum use of the collection system for storage; (3) Review and modification of pretreatment requirements to assure CSO impacts are minimized; (4) Maximization of flow to Publicly Owned Treatment Works (“POTW”) for treatment; (5) Prohibition of dry weather CSOs; (6) Control of solid and floatable materials in CSOs; (7) Pollution prevention; (8) Public notification of CSO occurrences and impacts; and (9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls. 59 Fed. Reg. 18691; *see also* Permit at 19–20. In addition, the CSO Control Policy requires municipalities to develop a “Long Term CSO Control Plan” “that will ultimately result in compliance with the requirements of the CWA.” 59 Fed. Reg. 18691; *see also* Permit at 23–25.

⁵ In addition to the Bayside Permit, discharges from the Bayside Facilities are also regulated under NPDES Permit No. CA0038849, which establishes requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges to San Francisco Bay, as well as NPDES Permit No. CA0038873, which establishes requirements on nutrients for the entire SFPUC combined sewer system. Neither of these permits is at issue here.

Baykeeper NOI to SFPUC

The CSO Control Policy allows a municipality to elect either a “Demonstration Approach” or a “Presumption Approach” to determine whether its Long Term CSO Control Plan will meet the CWA’s water quality-based requirements. The Demonstration Approach requires a successful demonstration that a municipality’s selected controls will meet relevant water quality objectives and protect the receiving waters’ beneficial uses, including designation of Total Maximum Daily Load allocations for impaired receiving waters. 59 Fed. Reg. 18693. Under the Presumption Approach, a municipality’s CSO program is reasonably presumed to meet these requirements where selected controls result in any one of the following criteria: (1) no more than an average of four CSOs not meeting minimum treatment requirements per year; (2) elimination or treatment of at least 85% of the annual average volume of combined sewage collected during precipitation events; or (3) elimination or treatment of the equivalent pollutant mass contained in at least 85% of the annual average volume of combined sewage collected during precipitation events. *Id.* at 18692–93. Such a reasonable presumption must be based on “the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas.” *Id.* at 18692. Therefore, receiving water monitoring data and analysis may rebut the presumption that a municipality’s CSO program meets CWA’s water quality-based requirements. *See, e.g.*, Regional Board, Response to Written Comments on the Reissuance of an NPDES Permit for Discharges from the [Bayside Facilities] (2013) at 2 (“the policy explicitly requires our presumption to be reasonable and supported by evidence obtained through post-construction compliance monitoring.”); Permit, Fact Sheet at F-42 (“The Order requires the Discharger to continue monitoring wet weather discharges to characterize their impacts and evaluate . . . whether beneficial uses are protected.”). When the CSO Control Policy went into effect, the City and SFPUC elected to employ the Presumption Approach.

2. Current Bayside Permit Requirements

The Bayside Permit contains the following provisions and mandates:

a. Discharge Prohibitions

Discharge Prohibition A prohibits discharges of untreated or partially-treated wastewater to waters of the United States except as expressly authorized in the Permit. Permit § III.A.

Discharge Prohibition C prohibits bypass of untreated or partially-treated wastewater to waters of the United States except during wet weather and as provided in the Permit. Permit § III.C.

Discharge Prohibition D prohibits any dry weather discharges from Discharge Points Nos. 002 through 043. Permit § III.D. Discharge Prohibition F prohibits discharges of treated wastewater in any location or manner different from that described in the Permit. Permit § III.F.

Baykeeper NOI to SFPUC**b. Receiving Water Limitations**

Receiving Water Limitation A prohibits any discharge that causes certain conditions, including floating, suspended or deposited macroscopic particulate matter or foams, alteration of temperature, turbidity, or color, and “toxic or other deleterious substances,” to exist in receiving waters outside the “near-field mixing zone (i.e., where mixing is not controlled by effluent discharge momentum and buoyancy).” Permit § V.A.

Receiving Water Limitation C prohibits any discharge that causes “a violation of any water quality standard for receiving waters outside near-field mixing zones.” Permit § V.C. Enforceable water quality standards for the Receiving Waters include those promulgated in the Water Quality Control Plan for the San Francisco Bay Basin (“Basin Plan”), which do not differentiate between dry and wet weather discharges.

c. Combined Sewer System Controls

The Combined Sewer System Controls require the Bayside Facilities to “maximize flows to the Southeast Plant and pollutant removal during wet weather in accordance with the Nine Minimum Controls and the Discharger’s Long-Term Control Plan,” Permit § VI.C.5, and specify performance criteria and monitoring requirements for wet weather combined sewer system operations consistent with their implementation, *see* Permit at 19–20, 23–25, and Fact Sheet at F-15, F-42. The City and SFPUC must implement the Long Term Control Plan and revise it “as necessary to ensure compliance with the Nine Minimum Controls and the Long Term Control Plan requirements of the Combined Sewer Overflow Control Policy.” Permit § VI.C.5.a.

Among other provisions, the Permit’s “Nine Minimum Controls” term requires proper operation and maintenance of the collection system and the combined sewer discharge outfalls “to reduce the magnitude, frequency, and duration of combined sewer discharges,” Permit § VI.C.5.b.i.(b), requires operation of the Southeast Plant at maximum treatable flow during wet weather, Permit § VI.C.5.b.iv, and prohibits dry weather CSOs from CSD Nos. 002 through 043, Permit § VI.C.5.b.v.

Among other provisions, the Permit’s “Long Term Control Plan” term requires “capture for treatment, or storage and subsequent treatment, [of] 100 percent of the combined sewage flow collected in the combined sewage system during precipitation events” for secondary treatment, equivalent-to-primary treatment, or primary treatment. Permit § VI.C.5.c.ii. “Primary Clarification,” as described in the CSO Control Policy, requires removal of “floatables and settleable solids.” 59 Fed. Reg. 18693. The term also details the operating conditions for each wet weather facility, including flow and storage capacities required to be met prior to CSD events. Permit § VI.C.5.c.iii.

*Baykeeper NOI to SFPUC***III. RELEVANT WATERWAYS AND STANDARDS****A. Receiving Waters**

The combined sewer system pipes and other conveyances from the Bayside Facilities discharge to the Central and Lower San Francisco Bay, Mission Creek Channel, Islais Creek Channel, and other local waterbodies. These receiving waters are waters of the United States within the San Francisco Bay watershed. Permit, Fact Sheet, at F-4.

1. Central and Lower San Francisco Bay

San Francisco Bay is an ecologically-sensitive waterbody and a defining feature of Northern California. San Francisco Bay is an important and heavily-used resource, with special aesthetic and recreational significance for people living in the surrounding communities. Aquatic sports are very popular in the Bay Area. The San Francisco Bay shoreline has numerous highly-valued beaches with public access that offer unique recreational opportunities for swimmers, kayakers, stand up paddleboarders, and windsurfers. The large-scale urbanization of the Bay Area makes these recreational and aesthetic uses critically important to the quality of life of Bay Area residents. Unfortunately, sewage spills and combined sewage overflows render San Francisco Bay's coastal resources inaccessible and/or hazardous for human contact or non-contact recreation for significant periods every year.

Further, San Francisco Bay's water quality is impaired and continues to decline. Central and Lower San Francisco Bay are both impaired for chlordane, DDT (dichlorodiphenyltrichloroethane), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, PCBs (polychlorinated biphenyls), and trash; Central San Francisco Bay is further impaired for selenium. San Francisco Bay's once-abundant and varied fisheries have been drastically diminished by pollution, and much of the wildlife habitat of San Francisco Bay has been degraded.

2. Mission Creek

Mission Creek is a dredged channel that runs approximately 2/3 mile between San Francisco Bay at Oracle Park and the start of Interstate 280 at 7th Street to the southwest, fed by a freshwater culvert originating at headwaters in the Castro District. The Creek abuts five wastewater pump stations and six combined sewer discharge outfalls. Mission Creek borders Oracle Park and its adjacent ferry terminal, China Basin Park, a Bay Area Water Trail kayak and small boat launch, and a continuous Shoreline Park, which contain walking paths, picnic areas, an amphitheater, sports courts, and a dog park. Mission Creek hosts approximately 20 houseboats and is a popular

Baykeeper NOI to SFPUC

area for water recreation activities. A wetland mitigation area near the kayak launch provides ecologically important habitat, and Mission Creek is also considered potential habitat for herring and shoreline wetland species.⁶ Again, sewage spills and combined sewage overflows render Mission Creek hazardous for human contact or non-contact recreation for significant periods every year. Further, Mission Creek is impaired for ammonia, chlordane, dieldrin, hydrogen sulfide, lead, mercury, PAHs (polycyclic aromatic hydrocarbons), PCBs (polychlorinated biphenyls), silver, and zinc, all commonly found in raw sewage.

3. Islais Creek

Islais Creek Channel is an approximately one mile long, east-west estuary connecting Central San Francisco Bay at Pier 84 and mostly underground freshwater culverts originating from Upper Islais Creek in Glen Park Canyon and Precita Creek in Diamond Heights. The Channel abuts the Southeast Wastewater Treatment Plant. Islais Creek was once San Francisco's largest freshwater body prior to extensive land reclamation, and the Channel continues to serve as a salt marsh and marine habitat to many aquatic species, including fish, marine mammals, vegetation, and over 168 species of birds. The Channel's shoreline hosts numerous small parks and walking trails, as well as a Bay Water Trail kayak and small boat launch.⁷ As with other waters impacted by discharges from the City and SFPUC, sewage spills and combined sewage overflows render Islais Creek hazardous for human contact or non-contact recreation for significant periods every year. Further, Islais Creek Channel is impaired for ammonia, chlordane, dieldrin, hydrogen sulfide, PAHs (polycyclic aromatic hydrocarbons), and toxicity—impairments caused by raw sewage discharges.

B. Water Quality Standards and Impairments

The Basin Plan designates beneficial uses and water quality objectives for waters receiving discharges from the Bayside Facilities. The existing beneficial uses for both Mission Creek and Islais Creek include: commercial and recreational fishing, estuarine habitat, wildlife habitat, water contact recreation, noncontact water recreation, and navigation. The existing beneficial uses for Central and Lower San Francisco Bay include: industrial service supply, industrial process supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact recreation, noncontact water recreation, and navigation. *See* Basin Plan, Ch. 2 at Table 2-1: Existing and Potential Beneficial Uses of Water Bodies in the San Francisco Bay Region.

The Basin Plan provides narrative and numeric water quality objectives to define appropriate

⁶ Port of San Francisco, Waterfront Resilience Story Maps (Dec. 17, 2021), <https://storymaps.arcgis.com/stories/39325a275f4a487d890b4608125595c5/>.

⁷ Port of San Francisco, Waterfront Resilience Story Maps.

Baykeeper NOI to SFPUC

environmental quality and to control activities that can adversely affect aquatic systems. Water quality objectives are necessary to protect the present and potential beneficial uses. Numeric objectives describe pollutant concentration, physical/chemical conditions of the water itself, and the toxicity of the water to aquatic organisms, and are designed to represent the maximum amount of pollutants that can remain in the water column without causing any adverse effect on aquatic organisms, on people consuming those organisms or water, and on other current or potential beneficial uses. Table 3-1 of the Basin Plan⁸ provides numeric water quality objectives for bacteria, specifically fecal coliform, total coliform, *E. coli*, and enterococcus, including water contact recreation receiving water standards of 110 cfu/100 mL standard threshold value (“STV”) for enterococcus concentrations and 320 cfu/100 mL STV for *E. Coli* concentrations. Water quality objectives for bacteria in Table 3-1 of the Basin Plan shall be strictly applied. *See* Basin Plan, Ch. 3.

Information available to Baykeeper documents the presence of fecal indicator bacteria in the Receiving Waters following modest storm events and even during dry weather at concentrations orders of magnitude greater than water quality standards for water contact recreation for *E. Coli* and enterococcus. Targeted epidemiological studies have shown a number of adverse health outcomes associated with fecally-polluted recreational water. Such health impacts result in a significant burden of disease and economic loss. Studies conducted worldwide have correlated gastrointestinal symptoms to recreating in water with high bacterial counts.⁹

California-specific studies show a higher incidence of upper respiratory and gastrointestinal symptoms associated with swimming in the vicinity of storm drains contaminated with high bacteria counts.¹⁰ Contaminated creeks run through San Francisco’s parks, posing public health threats, particularly to children, and significantly diminishing recreation-based beneficial uses. Additionally, the Receiving Waters are also listed on the State of California’s 2020-2022 Clean Water Act Section 303(d) list of impaired waterbodies. A waterbody that is listed as impaired cannot support the designated beneficial uses for that waterbody.

C. The City and County of San Francisco and SFPUC’s Discharges’ Impacts on Receiving Waters and Beneficial Uses

Self-Monitoring Reports submitted by SFPUC show 40 combined sewer overflows (“CSOs”),

⁸ See Exhibit C.

⁹ Annette Pruss, *Review of Epidemiological Studies on Health Effects from Exposure to Recreational Water*, 27 Int’l J. Epidemiology 1, 1–9 (1998), <https://academic.oup.com/ije/article/27/1/1/813163/>.

¹⁰ Robert W. Haile et al., *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, 10 Epidemiology 4, 355–63 (1999), <https://journals.lww.com/epidem/pages/articleviewer.aspx?year=1999&issue=07000&article=00004&type=abstract#pdf-link>.

Baykeeper NOI to SFPUC

releasing untreated or minimally-treated sewage, between March 2019 and February 2024 from the Bayside Facilities. SFPUC further reported at least one (1) bypass event, four (4) leaks, and numerous other operational failures from the Bayside Facilities during this same time period. Combined wastewater and stormwater effluent contains human waste, viruses, protozoa, mold spores, bacteria, and chemicals that cause cancer or reproductive toxicity.¹¹ High concentrations of these pollutants are typically found in raw and/or inadequately-treated effluent. Raw and minimally-treated sewage enters the Bayside Facilities and then subsequently flows directly to the Receiving Waters during CSO and bypass events.

As a direct result of these releases of untreated or minimally-treated sewage, self-reported monitoring data shows enterococcus concentrations exceeding the water contact recreation receiving water standard of 110 cfu/100 mL STV at one or more CSO monitoring locations for at least 17 months between March 2019 and February 2024 sampling shows *E. Coli* levels exceeding the water contact recreation receiving water standard of 320 cfu/100 mL STV for at least five (5) months between March 2019 and April 2021.¹² Sampling results demonstrated the presence of fecal indicator bacteria at concentrations that were orders of magnitude greater than numeric water quality objectives for water contact and non-contact recreation. This data demonstrates that the Bayside Facilities' CSO discharges are causing exceedances of fecal indicator bacteria water quality objectives in the Receiving Waters.

CSOs and dry weather discharges are recognized sources of impairing pollutants, including human fecal matter. The discharge of raw and/or inadequately-treated sewage via the Bayside Facilities harms the Receiving Waters and poses a serious risk to human health and the environment. The intensive use of San Francisco Bay and its tributaries for water-contact, and non-water-contact recreation ensures that people will come into contact with fecal matter and other pollutants from the raw and minimally-treated sewage discharged by the Bayside Facilities during CSO events. By discharging raw and/or inadequately-treated sewage and its associated pollutants into waters of the United States, the City and SFPUC have caused and are causing the continuing impairment of the Receiving Waters in violation of the Bayside Permit and the Act.

¹¹ See Mark Dorfman, *Swimming in Sewage: The Growing Problem of Sewage Pollution and How the Bush Administration Is Putting Our Health and Environment at Risk* (2004), <https://www.csu.edu/cerc/documents/SwimmingInSewage.pdf>; Elizabeth Frick et al., *Presence of Pharmaceuticals in Wastewater Effluent and Drinking Water, Metropolitan Atlanta, Georgia July-Sept. 1999*, *Proceedings of the 2001 Georgia Water Resources Conference* (Mar. 26–27, 2001), <https://repository.gatech.edu/server/api/core/bitstreams/f014ec77-2e44-479b-b9e1-8dbd588dc29e/content>; Assoc. Press, *Death by Dirty Water: Storm Runoff a Risk for Fish* (Nov. 17, 2014, updated Jan. 10, 2019), https://www.oregonlive.com/today/2014/11/death_by_dirty_water_storm_run.html.

¹² No *E. Coli* sampling results were reported after April 2021.

Baykeeper NOI to SFPUC**IV. CLEAN WATER ACT VIOLATIONS****A. Bayside Permit Discharge Prohibition A**

Discharge Prohibition A prohibits discharges of treated wastewater in any location or manner different from that described in the Bayside Permit. Permit § III.A. SFPUC and the City violate this prohibition in a host of ways.

First, SFPUC's self-reported violations on the State Board's California Integrated Water Quality System Project ("CIWQS") database indicate that discharges occurred as a result of equipment, operation and/or maintenance failures on numerous occasions in the past five years. *See* Table 1. The information in Table 1 demonstrates at least 146 violations and days of violations of the Permit's Discharge Prohibition A.¹³

Second, to the extent the City and SFPUC assert that the CSO discharges consist of "treated wastewater," the CSO operations and associated discharge events violate Discharge Prohibition A because they occur in a manner that is "different from" what the Permit mandates. SFPUC's Permit incorporates its Maintenance and Operations Plan and its Long Term Control Plan. *See* Permit § VI.C.5. Where SFPUC does not operate its system as described in those documents and the Permit, it is in violation of Discharge Prohibition A each time a CSO discharge occurs.

Since March 6, 2019, SFPUC's CSO maintenance failures and discharge point closures mean that each CSO discharge in that time is inconsistent with Discharge Prohibition A. Three specific examples of these differences are: (1) the closure of the Pierce Street outfall; (2) the inoperability or closure of the Brannan Street Combined Sewer Discharge Point during that entire period, and (3) the inoperability or closure of the 4th Steet South Combined Sewer Discharge Point during that entire period. In each instance, the Permit, as well as SFPUC's representations to the Regional Board and EPA about how its system operates were based on these outfalls being open and operable. Closing these discharge points results in changes to the quantity and pollutant content of discharges occurring during CSO events from other outfalls. As a result of these closed and/or inoperable discharge points, discharges occur from the system in substantially different ways than required or allowed by the Permit.

The Permit allows deviation from these requirements only if the City and SFPUC demonstrate that changes to the operating parameters "will result" in improvements in storage or treatment of wastewater flows *and* the Executive Officer of the Regional Water Board concurs with that demonstration, in writing, prior to implementation of the changes by the City and SFPUC. The City and SFPUC have neither made the required demonstration that their closure or non-use of

¹³ Tables 1 through 7 referenced herein are attached as Exhibit A to this Notice Letter.

Baykeeper NOI to SFPUC

the Pierce Street, Brannon Street, and Fourth Street South outfalls “will result” in improvements, nor has SFPUC obtained written consent to deviate from the Permit’s operational requirements. *See* Permit § VI.C.5.c.iii.

The City and SFPUC’s prohibited discharges from the Bayside Facilities to the Receiving Waters are ongoing and continuous. Each day and/or occasion that the City and SFPUC have discharged and continues to discharge treated wastewater in ways that violate Discharge Prohibition A is a separate and distinct violation of the Act. The City and SFPUC’s violations will continue each day and/or occasion that the City and SFPUC fail to operate their system as required by the Permit when it discharges sewage and wastewater from the Bayside Facilities to the Receiving Waters in violation of the requirements of the Permit and the Act. The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

B. Bayside Permit Discharge Prohibition C

Discharge Prohibition C prohibits bypass of untreated or partially-treated wastewater to waters of the United States except during wet weather and as provided in the Permit. Permit § III.C. Available data indicates that at least one bypass of untreated or partially-treated wastewater occurred since March 6, 2019. *See* Table 2. The information in Table 2 demonstrates at least one violation and day of violation of Discharge Prohibition C.

The City and SFPUC’s prohibited discharges from the Bayside Facilities to the Receiving Waters are ongoing and continuous. Each day and/or occasion that the City and SFPUC have discharged and continue to discharge untreated or partially treated wastewater in violation of the Permit’s Discharge Prohibition C is a separate and distinct violation of the Act. The City and SFPUC’s violations will continue each day and/or occasion that the City and SFPUC fail to prohibit the unpermitted bypass of untreated or partially treated wastewater from the Bayside Facilities to the Receiving Waters in violation of the requirements of the Permit and the Act. The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

C. Bayside Permit Discharge Prohibition D

Discharge Prohibition D prohibits any dry weather discharges from Discharge Points Nos. 002 through 043. Permit § III.D. Available data indicates that dry weather discharges occurred from unauthorized discharge points on at least four occasions since March 6, 2019. *See* Table 3. The information in Table 3 demonstrates at least four violations and days of violation of Discharge Prohibition D.

Baykeeper NOI to SFPUC

The City and SFPUC's prohibited discharges from the Bayside Facilities to the Receiving Waters are ongoing and continuous. Each day and/or occasion that the City and SFPUC have discharged and continue to discharge sewage during dry weather in violation of the Permit's Discharge Prohibition D is a separate and distinct violation of the Act. The City and SFPUC's violations will continue each day and/or occasion that the City and SFPUC fail to prohibit the unpermitted discharge of sewage from the Bayside Facilities to the Receiving Waters during dry weather in violation of the requirements of the Permit and the Act. The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

D. Bayside Permit Discharge Prohibition F

Discharge Prohibition F prohibits CSOs of untreated or partially-treated wastewater to waters of the United States except as expressly authorized in the Permit. Permit § III.F. Again, the City and SFPUC have and continue to violate this prohibition in several ways.

First, SFPUC self-reporting demonstrates that the Bayside Facilities discharged untreated or partially-treated wastewater on at least 14 occasions since March 6, 2019. *See* Table 4. The information in Table 4 demonstrates at least 14 violations and 16 days of violation of Discharge Prohibition F.

Second, the City and SFPUC's wastewater discharges during CSO events are discharges of untreated wastewater in violation of Discharge Prohibition F. As described below, the City and SFPUC fail to comply with the Combined Sewer Overflow controls that arise from the Permit, the federal CSO Policy, the Nine Minimum Controls, the Long Term Control Plan, and the Operations and Maintenance Plan. As a result of these failures, the CSO discharges by the City and SFPUC into the Receiving Waters consist of untreated wastewater. While SFPUC and the City presume that all of the wastewater discharged during CSO events receives at least primary treatment, this presumption is belied by the reality of the harmful contents of those discharges, including trash, floatable materials, human fecal matter, and other waste inconsistent with primary treatment.

Third, the City and SFPUC's wastewater discharges during CSO events are discharges of partially treated wastewater that are not "expressly authorized by the Permit." Permit § III.F. To the extent some of the CSO discharges do in fact receive primary or equivalent to primary treatment, such discharges still violate Discharge Prohibition F because those discharges of partially treated wastewater are not expressly authorized by the Permit because they occur in ways that are different from and inconsistent with the Permit's requirements. *See* Permit § VI.C.5.

Baykeeper NOI to SFPUC

The City and SFPUC's prohibited combined sewer discharges from the Bayside Facilities to the Receiving Waters are ongoing and continuous. Each day and/or occasion that the City and SFPUC have discharged and continues to result in combined sewer discharges of untreated or partially treated wastewater in violation of the Permit's Discharge Prohibition F is a separate and distinct violation of the Act. The City and SFPUC's violations will continue each day and/or occasion that the City and SFPUC fail prohibit the unpermitted discharge of untreated or partially treated wastewater, including raw sewage, from the Bayside Facilities to the Receiving Waters in violation of the requirements of the Permit and the Act. The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

E. Receiving Water Limitations**1. Receiving Water Limitation A**

Receiving Water Limitation A prohibits any discharge that causes floating, suspended or deposited macroscopic particulate matter or foams, alteration of temperature, turbidity, or color, and "toxic or other deleterious substances," to exist in receiving waters outside the "near-field mixing zone." Permit § V.A.

Videos taken by SFPUC and photos taken by Baykeeper during and shortly after storm and combined discharge events reveal myriad floating objects, including feces, trash, condoms, and syringes, discharging to Mission Creek from Bayside overflow structures on at least the following dates: December 27, 2022; December 31, 2022; January 9, 2023; January 14, 2023; February 24, 2023; March 9, 2023; March 14, 2023; March 21, 2023; March 28, 2023; December 18, 2023; December 19, 2023. *See Exhibit D.* Due to the velocity of flow during combined sewer overflow and discharge events into Mission Creek, each time SFPUC conducts a combined sewer discharge it contains harmful levels of trash, floating objects, and other deleterious materials.

Further, the discharges from the Bayside Facilities to Mission Creek violate Receiving Water Limitation A every time these facilities overflow during rain events or bypass normal treatment processes during dry weather. CSOs from the Mission Creek CSD outfalls have occurred on at least the following dates during the relevant time period: March 6, 2019; March 20, 2019; November 26, 2019; December 7, 2019; January 16, 2020; January 27, 2021; January 29, 2021; October 21, 2021; October 22, 2021; October 23–24, 2021; November 8–9, 2021; December 13, 2021; December 16, 2021; December 23, 2021; December 27, 2022; December 31, 2022; January 4, 2023; January 9, 2023; January 10, 2023; January 11, 2023; January 14, 2023; January 15, 2023; January 16, 2023; February 23–24, 2023; March 9, 2023; March 10, 2023; March 14, 2023; March 21–22, 2023; March 28, 2023; November 18, 2023; December 18, 2023;

Baykeeper NOI to SFPUC

December 19, 2023; December 20, 2023; December 29, 2023; January 13, 2024; January 14, 2024; January 22, 2024; and January 31, 2024. This information demonstrates at least 42 violations and days of violation of Receiving Water Limitation A.

In addition, millions of gallons of untreated combined wastewater discharged to the San Francisco Bay due to extensive flooding in the Marina Boulevard area on October 24, 2021 and December 31, 2022. *See* Table 4. This information demonstrates at least an additional two (2) violations of Receiving Water Limitation A.

These violations are ongoing and will continue each time contaminated water is discharged in violation of Receiving Water Limitation A of the Permit and Section 301(a) of the Clean Water Act, 33 U.S.C. § 1311(a). Each time discharges from the Bayside Facilities cause floating, suspended or deposited macroscopic particulate matter or foams, alteration of temperature, turbidity, or color, and “toxic or other deleterious substances,” to exist in receiving waters outside the “near-field mixing zone” is a separate and distinct violation of Receiving Water Limitation A of the Permit and Section 301(a) of the Clean Water Act, 33 U.S.C. § 1311(a). The City and SFPUC are subject to civil penalties for all violations of the Clean Water Act occurring in the five years prior to the date of this Notice Letter.

2. Receiving Water Limitation C

Receiving Water Limitation C prohibits any discharge that causes “a violation of any water quality standard for receiving waters outside near-field mixing zones.” Permit § V.C.

SFPUC’s self-monitoring data demonstrates that discharges from the Bayside Facilities contain elevated concentrations of pollutants, such as E. Coli and enterococcus, at levels exceeding applicable water quality standards by orders of magnitude. *See, e.g.*, Exhibit B (listing results of SFPUC’s water quality monitoring and instances when violations of water quality standards occurred); *see also* Basin Plan, Table 3-1. Discharges with elevated levels of bacteria and other pollutants adversely affect the beneficial uses of the Receiving Waters, and thus violate Receiving Water Limitation C of the Permit and the Act.

SFPUC’s self-reporting demonstrates that CSO events caused standard threshold values (STV) for concentrations of enterococcus and/or E. Coli exceeding applicable water quality standards at one or more Bayside CSO monitoring locations during at least 17 months since March 6, 2019.¹⁴ Water quality monitoring showed no exceedances during only one month (May 2019) when a CSO event occurred in the past five years. *See* Table 5; *see also* Exhibit B. The information in Table 5 demonstrates at least 114 violations and 495 days of violation of Receiving Water

¹⁴ SFPUC’s self-monitoring reports for April-August 2020 and October 2020-February 2021 are missing data for Monitoring Location 210.1. Reported data for Monitoring Location 230 begins January 2021.

Baykeeper NOI to SFPUC

Limitation C. SFPUC's sampling indicates that the discharges from the Bayside Facilities violate Receiving Water Limitation C every time these facilities overflow during rain events or bypass normal treatment processes during dry weather.

These violations are ongoing and will continue each time contaminated water is discharged in violation of Receiving Water Limitation C of the Permit and Section 301(a) of the Act, 33 U.S.C. § 1311(a). Each time discharges from the Bayside Facilities cause a violation of an applicable water quality standard is a separate and distinct violation of Receiving Water Limitation C of the Permit and Section 301(a) of the Act, 33 U.S.C. § 1311(a). The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

F. CSO Controls**1. Nine Minimum Control Measures**

The Bayside Permit's "Nine Minimum Controls" term requires proper operation and maintenance of the collection system and the combined sewer discharge outfalls "to reduce the magnitude, frequency, and duration of combined sewer discharges," Permit § VI.C.5.b.i.(b), requires operation of the Southeast Plant and North Point Facility at maximum treatable flow during wet weather, Permit § VI.C.5.b.iv, and prohibits dry weather CSOs from CSD Nos. 002 through 043, Permit § VI.C.5.b.v.

SFPUC's self-reporting indicate at least 171 occasions combined sewer system operation and/or maintenance failures since March 6, 2019. *See* Table 6. The operation and maintenance failures listed in Table 6 further violated the requirement to operate the Southeast Plant and North Point Facility at maximum treatable flow during wet weather on at least the following dates: October 21, 2021; October 24, 2021; December 31, 2022; March 21–22, 2023; and March 28, 2023. These operation and maintenance failures further violated the prohibition against dry weather CSOs from Discharge Points No. 002 on at least the following dates: August 5, 2021; March 17, 2023; and June 25, 2023.

The information in Table 6 demonstrates at least 180 violations and 171 days of violation of the Bayside Permit's "Nine Minimum Controls" term. The City and SFPUC's failure to meet the Bayside Permit's "Nine Minimum Controls" term is ongoing and continuous. The City and SFPUC have therefore been in daily and continuous violation of the Permit every day since at least March 6, 2019. Each day and/or occasion that the City and SFPUC fail to properly operate and maintain its sewer system, prevent dry weather CSOs, and control solid and floatable materials in CSOs is a separate and distinct violation of the Act. The City and SFPUC's violations will continue each day and/or occasion that the City and SFPUC fail to meet the

Baykeeper NOI to SFPUC

requirements of the Permit and the Act. The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

2. Long Term CSO Control Plan

The Bayside Permit’s “Long Term Control Plan” term requires capture of “100 percent of the combined sewage flow collected in the combined sewage system during precipitation events” for equivalent-to-primary, primary, or secondary treatment. Permit § VI.C.5.c.ii. “Primary Clarification,” as described in the CSO Control Policy, requires removal of “floatables and settleable solids.” 59 Fed. Reg. 18693. The term also details the operating parameters for each wet weather facility, including flow and storage capacities required to be met prior to CSD events, Permit § VI.C.5.c.iii, and requires revision of operating protocols “as necessary to ensure compliance with the Nine Minimum Controls and the Long-Term Control Plan requirements of the Combined Sewer Overflow Control Policy,” Permit § VI.C.5.a.

Videos taken by SFPUC and photos taken by Baykeeper during storm events reveal myriad floating objects, including feces, trash, condoms, and syringes, discharging to Mission Creek from Bayside overflow structures, as well as the two self-reported occasions of extensive flooding in the Marina Boulevard area, demonstrate failure to capture and treat the required 100 percent of combined sewage flow collected in the combined sewage system during precipitation events. Discharges from the Bayside Facilities to Mission Creek violate the Bayside Permit’s “Long Term Control Plan” term every time these facilities overflow during rain events or bypass normal treatment processes during dry weather. CSOs from the Mission Creek CSD outfalls have occurred on at least the following dates during the relevant time period: March 6, 2019; March 20, 2019; November 26, 2019; December 7, 2019; January 16, 2020; January 27, 2021; January 29, 2021; October 21, 2021; October 22, 2021; October 23–24, 2021; November 8–9, 2021; December 13, 2021; December 16, 2021; December 23, 2021; December 27, 2022; December 31, 2022; January 4, 2023; January 9, 2023; January 10, 2023; January 11, 2023; January 14, 2023; January 15, 2023; January 16, 2023; February 23–24, 2023; March 9, 2023; March 10, 2023; March 14, 2023; March 21–22, 2023; November 18, 2023; December 18, 2023; December 19, 2023; December 20, 2023; December 29, 2023; January 13, 2024; January 14, 2024; January 22, 2024; and January 31, 2024. In addition, millions of gallons of untreated combined wastewater discharged to the San Francisco Bay due to flooding on October 24, 2021 and December 31, 2022. This information demonstrates at least 39 violations and days of violation of the Bayside Permit’s “Long Term Control Plan” section VI.C.5.c.ii since March 6, 2019.

SFPUC’s self-reporting indicate wet weather facility operating parameter violations on at least 11 occasions since March 6, 2019. *See* Table 7. The information in Table 7 demonstrates at least 11 violations and days of violation of the Bayside Permit’s “Long Term Control Plan” section VI.C.5.c.iii since March 6, 2019.

Baykeeper NOI to SFPUC

Moreover, SFPUC's self-reported monitoring data demonstrate that the Bayside Facilities do not achieve relevant water quality objectives and therefore do not overcome the "presumption" described in the Long Term Control Plan and the CSO Policy. Specifically, CSO events caused standard threshold values (STV) for concentrations of enterococcus and/or E. Coli exceeding applicable water quality standards at one or more Bayside CSO monitoring locations during at least 17 months since March 6, 2019.¹⁵ See Table 5; *see also* Exhibit B. Water quality monitoring showed no exceedances during only one month (May 2019) when a CSO event occurred in the past five years.

Regulators have confirmed SFPUC's failure to meet water quality standards as required. For example, the Bayside Permit Fact Sheet recounts that CSD monitoring conducted under the previous permit, Order No. R2-2008-0007, showed average combined sewer discharge pollutant concentrations "below acute water quality objectives for metals and other priority pollutants, *with the exceptions of copper and zinc.*" Bayside Permit, Fact Sheet at F-42 (emphasis added). In a November 21, 2019 letter to SFPUC regarding the reissuance of the Oceanside Permit, the EPA stated its concern that the approach adopted by San Francisco in the 1970s, with its continued reliance on primary treatment, does not meet the "presumption" approach under the CSO Policy. Further, SFPUC has self-reported more than the four (4) CSOs failing to meet minimum treatment requirements per year, and SFPUC's failure to treat 85% of CSO volume, or to remove 85% of the mass of impairing pollutants in CSOs, for at least the last five years. The City and SFPUC have undertaken no Long Term Control Plan revisions to bring operating protocols into compliance with the CWA and therefore operate in violation of the Bayside Permit.

Additionally, as described above, SFPUC fails to operate the system as dictated and required by the Permit because it has chosen to cease using discharge points without demonstrating that those closures will result in beneficial impacts related to storage or treatment, and with the written consent of the Regional Water Board. Instead, SFPUC has and continues to operate its combined sewer discharges in ways not authorized by the Permit and which are inconsistent with its Long Term Control Plan and Operations and Maintenance Plan.

The information in Table 7 as well as the City and SFPUC's other failures to comply with the CSO Policy demonstrate that the City and SFPUC have operated the Bayside Facilities every day for at least the last five years in a manner inconsistent with the Permit. The City and SFPUC have failed to revise the Long Term Control Plan to bring the Bayside Facilities into compliance with the CWA, violating Permit § VI.C.5.a every day for at least the last five years. These violations are ongoing and will continue each time insufficiently treated water is discharged. Each time discharges from the Bayside Facilities cause a violation of an applicable water quality

¹⁵ SFPUC's self-monitoring reports for April-August 2020 and October 2020-February 2021 are missing data for Monitoring Location 210.1. Reported data for Monitoring Location 230 begins January 2021.

Baykeeper NOI to SFPUC

standard is a separate and distinct violation of the Bayside Permit and Section 301(a) of the Act, 33 U.S.C. § 1311(a). The City and SFPUC are subject to civil penalties for all violations of the Act occurring in the five years prior to the date of this Notice Letter.

V. RELIEF SOUGHT FOR VIOLATIONS OF THE CLEAN WATER ACT

Upon expiration of the 60-day notice period, Baykeeper will file a citizen suit enforcement action pursuant to Section 505(a) of the Act, 33 U.S.C. § 1365(a), for the above-referenced violations and any additional violations stemming from the same conduct. Baykeeper will seek injunctive relief preventing further violations of the Act pursuant to Sections 505(a) and (d), 33 U.S.C. § 1365(a) and (d), declaratory relief, and such other relief as permitted by law. Pursuant to Section 309(d) of the Act, 33 U.S.C. § 1319(d), and the Adjustment of Civil Monetary Penalties for Inflation, 40 C.F.R. § 19.4, each separate violation of the Act subjects the violator to a penalty for all violations occurring during the period commencing five years prior to the date of a notice of intent to file suit letter. The Act imposes civil penalty liability of up to \$64,618 per day per violation for violations occurring after November 2, 2015. 33 U.S.C. § 1319(d); 40 C.F.R. §§ 19.1-19.4. Lastly, pursuant to Section 505(d) of the Act, 33 U.S.C. § 1365(d), Baykeeper will seek to recover its costs, including attorneys' and experts' fees, associated with this enforcement action.

VI. PERSONS RESPONSIBLE FOR THE VIOLATIONS

Baykeeper puts the City and SFPUC on notice that they are the entities responsible for the violations described above. If additional persons are subsequently identified as also being responsible for the violations set forth above, Baykeeper puts the City and SFPUC on notice that it intends to include those persons in this action.

VII. NAME AND ADDRESS OF NOTICING PARTY

The name, mailing address, and telephone number of the noticing party is:

Eric Buescher (Bar No. 271323)
Nicole C. Sasaki (Bar No. 298736)
San Francisco Baykeeper
1736 Franklin Street, Suite 800
Oakland, California 94612
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(510) 735-9700

Baykeeper NOI to SFPUC

Baykeeper has retained legal counsel to represent it in this matter. Please direct all communications to:

Daniel Cooper (Bar No. 153576)
Sycamore Law, Inc.
1004 O'Reilly Avenue
San Francisco, California 94129
daniel@sycamore.law
(415) 360-2962

VIII. CONCLUSION

Baykeeper is willing to discuss effective remedies for the violations described in this Notice Letter. If you wish to pursue settlement discussions, please reach out to counsel at Sycamore Law, Inc. using the contact information above. I suggest that, if interested, those discussions be initiated soon, as Baykeeper does not intend to delay filing a complaint in federal court if discussions are continuing when the 60-day period ends.

Sincerely,



Daniel Cooper

Cc:

Michael S. Regan, Administrator
U.S. Environmental Protection Agency
Mail Code: 1101A
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Eileen White, Executive Officer
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State Water Resources Control Board
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Sacramento, California 95812

Enclosures

Baykeeper NOI to SFPUC

List of Exhibits

Exhibit A – Tables 1 – 7

Exhibit B – Summary of SFPUC Bacteria Water Quality Sampling

Exhibit C – Basin Plan, Table 3.1

Exhibit D – Examples of floatables (trash, feces, etc.) in and after CSO events in Mission Creek

EXHIBIT A**TABLE 1: DISCHARGE PROHIBITION A VIOLATIONS SINCE MARCH 2019**

Date	Location	Cause
“intermittently” March 6, 2019 – June 25, 2019	Air vent pipe 470 ft. upstream of EFF-001	Leaking air vent pipe section
June 10–12, 2020	Air vent pipe 470 ft. upstream of EFF-001	“Construction activities related to replacing a vent pipe section”
December 23, 2020 – January 20, 2021	Pipe joint under Pier 80	“leak from a joint on the forty-two-inch Islais Creek force main that conveys treated effluent from [Southeast Plant (“SEP”)] to the Pier 80 deep-water outfall (Discharge Point No. 001)”
August 5, 2021	EFF-002	“an issue with the V20 valve located at the booster pump station during a power blip”
December 16, 2021	Pipe joint under Pier 80	“leaking pipe joint in the final effluent force main below Pier 80”
March 17, 2023	EFF-002	“an issue with transitioning one of the effluent pumps at the Booster Pump Station (BPS) from local control to automatic level control upon re-starting of the plant after a SEP shutdown”
June 25, 2023	EFF-002	“loss of power to the Booster Pump Station (BPS), which pumps final effluent to Discharge Point No. 001”

TABLE 2: DISCHARGE PROHIBITION C VIOLATIONS SINCE MARCH 2019

Date	Location	Cause
October 21, 2021	Central Basin CSDs	“an unanticipated bypass of the primary disinfection system (PDS) occurred when a pressure manhole on one of the PDS channels failed.”

TABLE 3: DISCHARGE PROHIBITION D VIOLATIONS SINCE MARCH 2019

Date	Location	Cause
August 5, 2021	EFF-002	“an issue with the V20 valve located at the booster pump station during a power blip”
April 8, 2022	CSD-026	discharge of hydraulic fluid due to “the failure of two hydraulic position sensors associated with the Division Street CSD Outfall”
March 17, 2023	EFF-002	“an issue with transitioning one of the effluent pumps at the Booster Pump Station (BPS) from local control to automatic level control upon re-starting of the plant after a SEP shutdown”
June 25, 2023	EFF-002	“loss of power to the Booster Pump Station (BPS), which pumps final effluent to Discharge Point No. 001”

EXHIBIT A**TABLE 4: DISCHARGE PROHIBITION F VIOLATIONS SINCE MARCH 2019**

Date	Location	Violated Permit Term	Cause
May 18–19, 2019	CSD-040 – CSD-042	Griffith Pump Station “could not be operated at its wet weather design capacity” in accordance with Provision VI.C.5.c.iiiI	“essential maintenance”
December 22, 2019	CSD-029	“The Mariposa Pump Station (MPS) did not maintain peak wet weather capacity (10 MGD) during the 12/22 CSD event in accordance with Provision VI.C.5.c.iii(b).”	“The flow fluctuations at the pump station were indicative of a ‘ragging’ event”
December 17, 2020	CSD-029	CSD “before the Mariposa Pump Station reached 10 MGD, as required by Provision VI.C.5.c.iii(b)”	“Drain valve blocked open due to debris”
October 21, 2021	Central Basin CSDs	“SEP flow was not maintained at 250 MGD during the wet weather event as required by Provision VI.C.5.c.iiiI”	“a blown manhole at the Facility’s primary disinfection system (PDS)”
October 23, 2021	Northshore CSDs	CSD “before the North Point Facility reached 135 MGD, as required by Provision VI.C.5.c.iii(a)”	Operator error
October 24, 2021	Central Basin CSDs	“SEP flow was not maintained at 250 MGD during a wet weather event, as required by Provision VI.C.5.c.iiiI”	Power interruption at Flynn Pump Station
	Marina Green Park	“approximately 1.4 million gallons discharged to San Francisco Bay without authorization”	“flooding in the parking lot serving Marina Green Park, which has several storm drains that discharge directly to San Francisco Bay”
December 31, 2022	Northshore CSDs	Flow to the North Point Facility was not maintained at 135 MGD in violation of § VI.C.5.c.iii(a)	“one of the two Northshore wet weather pumps (which provide flow to the North Point Wet Weather Facility) was out of service because a control board on the variable frequency drive

EXHIBIT A

			(VFDs) failed.”
	Marina Boulevard Area	“approximately 2.3 million gallons discharged to San Francisco Bay without authorization”	“approximately 18.6 million gallons of untreated combined wastewater flooded the Marina Boulevard area”
January 9, 2023	CSD-029	Mariposa Pump Station did not maintain peak flow rate throughout the CSD event in violation of § VI.C.5.c.iii(b)	“Power issues during the storm caused the pumps to stop”
February 23–24, 2023	Central Basin CSDs	Channel Pump Station “flow rate periodically dropped to less than 80 MGD” in violation of § VI.C.5.c.iii(b)	“pumps tripping”
March 9–10, 2023	Central Basin CSDs	Channel Pump Station “flow rate dropped to zero” in violation of § VI.C.5.c.iii(b)	(1) “power issues tripped CHS pumps” (2) after restart, “the frame on the CHS downstream influent throttling gate detached from the hydraulic actuator. . . . CHS was shut down because the gate failure prevented pumping”
March 21–22, 2023	Central Basin CSDs	SEP flow rate was not maintained at 250 MGD during a wet weather event, as required by § VI.C.5.c.iiiI	“power outage shut down [Booster Pump Station], which limited SEP discharge to Discharge Point No. 002.”
March 28, 2023	Central Basin CSDs	SEP flow rate was not maintained at 250 MGD during a wet weather event, as required by § VI.C.5.c.iiiI	“a local power issue at 2:12 p.m. caused the BPS pumps to trip and shut off.”

EXHIBIT A**TABLE 5: RECEIVING WATER LIMITATION C VIOLATIONS SINCE MARCH 2019**

Date	Monitoring Locations (Enterococcus)	Monitoring Locations (E. Coli*) <i>*only reported through March 2021</i>
March 2019	220, 320	220, 320
November 2019	220, 320	220, 320
December 2019	202.4, 220, 320	220, 320
January 2020	202.4, 220, 320	220, 320
December 2020	211, 301.1, 301.2	
January 2021	211, 220, 301.1, 320	220, 301.1
October 2021	202.4, 202.5, 210.1, 211, 220, 230, 300.1, 301.1, 301.2, 320	
November 2021	220, 230, 301.1, 320	
December 2021	202.4, 202.5, 220, 230, 320	
December 2022	202.4, 202.5, 211, 220, 230, 300.1, 301.1, 320	
January 2023	202.4, 202.5, 211, 220, 230, 300.1, 301.1, 320	
February 2023	202.4, 202.5, 220, 230, 300.1, 301.1, 301.2, 320	
March 2023	202.4, 220, 230, 320	
November 2023	202.5, 210.1, 211, 220, 230, 301.1, 320	
December 2023	202.4, 202.5, 220, 230, 300.1, 301.1, 301.2, 320	
January 2024	220, 230, 300.1, 301.1, 301.2, 320	
February 2024	202.4, 202.5, 211, 220, 230, 300.1, 301.1, 301.2, 320	

TABLE 6: PROPER OPERATION AND MAINTENANCE VIOLATIONS SINCE MARCH 2019

Date	Location	Operation/Maintenance Failure
May 18–19, 2019	Griffith Pump Station	Failure to maintain peak wet weather capacity
“intermittently” March 6, 2019 – June 25, 2019	Air vent pipe 470 ft. upstream of EFF-001	Leak
December 22, 2019	Mariposa Pump Station	Failure to maintain peak wet weather capacity
June 10–12, 2020	Air vent pipe 470 ft. upstream of EFF-001	Leak
December 17,	Mariposa Pump	Failure to achieve peak wet weather capacity

EXHIBIT A

2020	Station	
December 23, 2020 – January 20, 2021	Pipe joint under Pier 80	Leak
August 5, 2021	Booster Pump Station	“an issue with the V20 valve”
October 21, 2021	Southeast Plant	Failure of a pressure manhole on one of the PDS channels; Failure to maintain peak wet weather capacity
October 24, 2021	Southeast Plant	Failure maintain peak wet weather capacity
December 16, 2021	Pipe joint under Pier 80	Leak
April 8, 2022	CSD-026	Failure of two hydraulic position sensors led to discharge of hydraulic fluid
December 31, 2022	North Point Facility	Failure to maintain peak wet weather capacity
January 9, 2023	Mariposa Pump Station	Failure to maintain peak wet weather capacity
February 23–24, 2023	Channel Pump Station	Failure to maintain peak wet weather capacity
March 9–10, 2023	Channel Pump Station	Failure to maintain peak wet weather capacity
March 17, 2023	Booster Pump Station	Failure to properly transition from local control to automatic level control after Southeast Plant shutdown
March 21–22, 2023	Southeast Plant	Failure to maintain peak wet weather capacity
March 28, 2023	Southeast Plant	Failure to maintain peak wet weather capacity
June 25, 2023	Booster Pump Station	Power loss

EXHIBIT A**TABLE 7: OPERATING PARAMETER VIOLATIONS SINCE MARCH 2019**

Date	Operating Parameter	CSD Location	Cause
May 18–19, 2019	§ VI.C.5.c.iiiI (Griffith Pump Station)	CSD-040 – CSD-042	“Essential maintenance caused an unanticipated bypass: a planned rehabilitation project precluded use of wet weather pumps”
December 22, 2019	§ VI.C.5.c.iii(b) (Mariposa Pump Station)	CSD-029	“Ragging event interfered with pumping”
December 17, 2020	§ VI.C.5.c.iii(b) (Mariposa Pump Station)	CSD-029	“Drain valve blocked open due to debris”
October 21, 2021	§ VI.C.5.c.iiiI (Southeast Plant)	Central Basin CSDs	“Pressure manhole failure limited SEP flow for safety and prevent facility damage”
October 23, 2021	§ VI.C.5.c.iii(a) (North Point Facility)	Northshore CSDs	“Operator error”
October 24, 2021	§ VI.C.5.c.iiiI (Southeast Plant)	Central Basin CSDs	“PG&E power interruption” at Flynn Pump Station
December 31, 2022	§ VI.C.5.c.iii(a) (North Point Facility)	Northshore CSDs	“one of the two Northshore wet weather pumps (which provide flow to the North Point Wet Weather Facility) was out of service because a control board on the variable frequency drive (VFDs) failed.”
January 9, 2023	§ VI.C.5.c.iii(b) (Mariposa Pump Station)	CSD-029	“[Mariposa Pump Station] reached peak wet weather capacity (10 MGD) when the Mariposa CSD started but did not maintain that peak flow rate throughout the CSD event.”
February 23, 2023	§ VI.C.5.c.iii(b) (Channel Pump Station)	Central Basin CSDs	“pumps tripping”
March 21, 2023	§ VI.C.5.c.iiiI (Southeast Plant)	Central Basin CSDs	“power outage shut down [Booster Pump Station], which limited SEP discharge to Discharge Point No. 002.”
March 28, 2023	§ VI.C.5.c.iiiI (Southeast Plant)	Central Basin CSDs	“a local power issue at 2:12 p.m. caused the BPS pumps to trip and shut off.”

LEGEND		
Reported Combined Sewer Discharge	E. Coli	Enterococci
Elevated Bacteria Count Unassociated With Reported	400 MPN/100mL	104 MPN/100mL
REC-1 Bacteria WQO (STV) Exceedance	320 MPN/100mL	110 MPN/100mL

MONITORING STATION: CRISSY FIELD BEACH EAST (202.4)

NOVEMBER 2018		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
11/5/18	10	10
11/13/18	10	10
11/19/18	10	110
11/20/18	52	41
11/21/18	985	173
11/22/18	52	10
11/26/18	10	20
11/29/18	31	135
11/30/18	31	10
Log Mean	1.489796256	1.48039849
STV	207.0260394	146.3517097

DECEMBER 2018		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
12/3/18	10	10
12/10/18	10	10
12/17/18	85	63
12/24/18	10	10
12/31/18	10	10
Log Mean	1.185883785	1.15986811
STV	52.32937171	41.50995782

JANUARY 2019		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
1/7/19	51	10
1/14/19	10	10
1/22/19	10	20
1/28/19	10	10
Log Mean	1.176892544	1.075257499
STV	42.70168641	18.54461093

FEBRUARY 2019		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
2/4/19	10	10
2/11/19	10	10
2/13/19	990	441
2/14/19	577	1565
2/15/19	41	20
2/19/19	20	10
2/25/19	10	75
Log Mean	1.667232123	1.716434884
STV	587.9072696	726.2973498

MARCH 2019		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
3/4/19	74	84
3/11/19	63	20
3/18/19	359	30
3/25/19	10	10
Log Mean	1.805916679	1.425607634
STV	418.520181	83.37064293

APRIL 2019		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
4/1/19	1607	85
4/2/19	1112	52
4/3/19	10	10
4/8/19	10	10
4/15/19	52	10
4/22/19	10	10
4/29/19	10	10
Log Mean	1.709732001	1.235060324
STV	990.748981	56.98152608

MAY 2019		
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<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	10	10
5/13/19	10	10
5/20/19	10	10
5/28/19	10	10
<i>Log Mean</i>	<i>1</i>	<i>1</i>
STV	10	10

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	20	10
6/10/19	10	20
6/17/19	10	10
6/24/19	10	10
<i>Log Mean</i>	<i>1.075257499</i>	<i>1.075257499</i>
STV	18.54461093	18.54461093

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	10
7/8/19	10	10
7/15/19	20	10
7/22/19	41	10
7/29/19	20	31
<i>Log Mean</i>	<i>1.24296877</i>	<i>1.098272339</i>
STV	37.22229765	23.98742734

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	31	10
8/12/19	20	10
8/19/19	41	20
8/26/19	10	10
<i>Log Mean</i>	<i>1.351293887</i>	<i>1.075257499</i>
STV	49.38990348	18.54461093

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	10	20
9/9/19	10	10
9/16/19	10	97
9/23/19	31	10
9/30/19	583	10
<i>Log Mean</i>	<i>1.45140605</i>	<i>1.257560346</i>
STV	270.3872377	64.00655682

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/1/19	10	10
10/7/19	10	10
10/15/19	10	10
10/21/19	10	10
10/28/19	10	10
<i>Log Mean</i>	<i>1</i>	<i>1</i>
STV	10	10

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	85	24196
11/5/19	10	110
11/6/19	10	10
11/12/19	10	10
11/18/19	10	10
11/25/19	75	31
<i>Log Mean</i>	<i>1.300746698</i>	<i>1.300746698</i>
STV	79.15089343	991.7043915

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	10	31
12/8/19	75	173
12/9/19	20	10
12/16/19	10	10
12/23/19	10	20
12/30/19	52	52
<i>Log Mean</i>	<i>1.3153491</i>	<i>1.457740189</i>
STV	65.94876297	116.0324378

JANUARY 2020		
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<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	31	52
1/13/20	31	41
1/16/20	414	794
1/17/20	75	882
1/18/20	20	20
1/21/20	97	309
1/22/20	109	134
1/23/20	10	10
1/27/20	10	131
1/28/20	10	10
<i>Log Mean</i>	1.580001322	1.920944086
STV	188.0696959	692.5901259

MARCH 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	10	10
3/9/20	10	10
3/16/20	10	10
3/23/20	10	10
3/30/20	10	20
<i>Log Mean</i>	1	1.060205999
STV	10	17.09207828

MAY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/4/20	10	10
5/11/20	10	10
5/18/20	10	10
5/26/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

JULY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/6/20	10	10
7/13/20	10	10
7/20/20	75	10
7/27/20	20	10
<i>Log Mean</i>	1.294022815	1
STV	66.51073834	10

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	10	1515
2/4/20	10	10
2/10/20	10	10
2/18/20	10	10
2/24/20	31	10
<i>Log Mean</i>	1.098272339	1.436082527
STV	23.98742734	485.4827112

APRIL 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/6/20	10	10
4/13/20	10	10
4/20/20	10	10
4/27/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

JUNE 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/1/20	10	10
6/8/20	10	10
6/15/20	10	6488
6/16/20	10	10
6/22/20	10	10
6/29/20	10	10
<i>Log Mean</i>	1	1.46868514
STV	10	871.9100966

AUGUST 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/3/20	20	10
8/10/20	10	10
8/17/20	96	10
8/24/20	10	52
8/31/20	63	10
<i>Log Mean</i>	1.416528356	1.143200669
STV	99.86890651	35.78535349

SEPTEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/8/20	52	10
9/14/20	145	10
9/21/20	41	10
9/28/20	97	10
<i>Log Mean</i>	1.869231734	1
STV	155.0612111	10

NOVEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/2/20	41	20
11/9/20	10	10
11/16/20	195	148
11/17/20	14136	83
11/18/20	31	10
11/23/20	10	10
11/30/20	10	10
<i>Log Mean</i>	1.792072385	1.3414814
STV	1799.251518	95.50681449

JANUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/4/21	10	10
1/11/21	10	10
1/19/21	10	10
1/25/21	10	52
1/27/21	132	98
<i>Log Mean</i>	1.224114786	1.341445884
STV	73.54802346	89.88369293

MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/21	20	20
3/8/21	52	98
3/15/21	31	31
3/22/21	10	10
3/31/21	10	10

OCTOBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/5/20	41	10
10/13/20	109	52
10/19/20	74	10
10/26/20	223	10
<i>Log Mean</i>	1.966936734	1.179000836
STV	230.324265	43.44691849

DECEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/7/20	10	10
12/13/20	10	10
12/14/20	10	20
12/21/20	73	10
12/28/20	20	10
<i>Log Mean</i>	1.232870571	1.060205999
STV	51.83263021	17.09207828

FEBRUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/21	30	10
2/8/21	31	10
2/16/21	10	10
2/22/21	10	10
<i>Log Mean</i>	1.242120737	1
STV	39.86721186	10

APRIL 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/5/21	50	41
4/12/21	50	97
4/19/21	10	10
4/26/21	20	10
<i>Log Mean</i>	1.424742501	1.399888898
STV	72.4753284	105.530012

JUNE 2021		
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)	

<i>Log Mean</i>	1.301679007	1.356723553
STV	50.32820476	76.67515916

MAY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/3/21	10
5/10/21	10
5/17/21	10
5/24/21	10
<i>Log Mean</i>	1
STV	10

JULY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/6/21	754
7/7/21	10
7/12/21	41
7/19/21	10
7/26/21	52
7/27/21	243
7/29/21	10
<i>Log Mean</i>	1.655966403
STV	407.0789686

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10
9/13/21	10
9/20/21	10
9/27/21	10
<i>Log Mean</i>	1
STV	10

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	10
11/8/21	10
11/15/21	10
11/22/21	10
11/29/21	10
<i>Log Mean</i>	1

6/1/21	20
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	253
6/29/21	10
<i>Log Mean</i>	1.284025086
STV	100.8380751

AUGUST 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/2/21	10
8/9/21	10
8/16/21	41
8/23/21	96
8/30/21	10
<i>Log Mean</i>	1.319011018
STV	80.08008643

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/4/21	20
10/12/21	10
10/18/21	10
10/24/21	24196
10/25/21	341
10/26/21	20
<i>Log Mean</i>	1.919759658
STV	4271.672269

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	10
12/13/21	315
12/14/21	20
12/20/21	20
12/23/21	63
12/27/21	74
<i>Log Mean</i>	1.628157136
STV	208.590763

<u>STV</u>	<u>10</u>
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JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	75
1/10/22	20
1/18/22	148
1/19/22	10
1/24/22	20
1/31/22	2723
<i>Log Mean</i>	1.847071769
<u>STV</u>	<u>966.5053031</u>

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/1/22	520
3/2/22	20
3/7/22	10
3/14/22	216
3/15/22	20
3/21/22	10
3/28/22	305
3/29/22	41
<i>Log Mean</i>	1.718700098
<u>STV</u>	<u>403.6278803</u>

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	31
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
<i>Log Mean</i>	1.098272339
<u>STV</u>	<u>23.98742734</u>

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	10
6/11/22	10

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/22	161
2/2/22	10
2/7/22	10
2/14/22	169
2/15/22	52
2/22/22	10
2/28/22	417
<i>Log Mean</i>	1.681550283
<u>STV</u>	<u>367.3814261</u>

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	10
4/18/22	10
4/25/22	10
<i>Log Mean</i>	1
<u>STV</u>	<u>10</u>

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	10
<i>Log Mean</i>	1
<u>STV</u>	<u>10</u>

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	134
8/9/22	31
8/15/22	20
8/22/22	10
8/29/22	10
<i>Log Mean</i>	1.319916081
<u>STV</u>	<u>77.60548503</u>

6/18/22	31
6/25/22	41
Log Mean	1.276036388
STV	48.92967414

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	31
9/12/22	20
9/19/22	10
9/26/22	10
Log Mean	1.198097922
STV	32.19621662

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	20
11/14/22	10
11/21/22	41
11/28/22	121
11/29/22	10
Log Mean	1.399319845
STV	97.10653286

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/23	146
1/3/23	86
1/9/23	98
1/10/23	160
1/11/23	20
1/12/23	41
1/14/23	31
1/16/23	426
1/17/23	63
1/23/23	10
1/30/23	10
Log Mean	1.738920278
STV	251.0307102

MARCH 2023	
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OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	20
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	10
Log Mean	1.060205999
STV	17.09207828

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/1/22	10
12/5/22	31
12/12/22	10
12/19/22	10
12/27/22	20
12/31/22	2282
Log Mean	1.525117888
STV	507.6482456

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	14136
2/7/23	10
2/13/23	20
2/21/23	10
2/24/23	109
2/25/23	20
2/27/23	10
Log Mean	1.684259004
STV	1431.297741

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	1050
4/11/23	10
4/17/23	10
4/24/23	613
4/25/23	41

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/6/23	10
3/13/23	10
3/14/23	465
3/15/23	10
3/20/23	10
3/27/23	10
<i>Log Mean</i>	1.277908825
STV	141.4525762

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	10
5/8/23	20
5/15/23	10
5/22/23	85
5/30/23	31
<i>Log Mean</i>	1.344362123
STV	69.51797246

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	63
7/10/23	10
7/17/23	10
7/24/23	10
7/31/23	10
<i>Log Mean</i>	1.15986811
STV	41.50995782

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	20
9/18/23	10
9/25/23	20
<i>Log Mean</i>	1.150514998
STV	23.62252276

NOVEMBER 2023	
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<i>Log Mean</i>	1.736905605
STV	869.346252

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	52
6/20/23	10
6/26/23	10
<i>Log Mean</i>	1.179000836
STV	43.44691849

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	10
8/14/23	85
8/22/23	10
8/28/23	10
<i>Log Mean</i>	1.232354731
STV	67.31506397

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10
10/23/23	10
10/30/23	10
<i>Log Mean</i>	1
STV	10

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	20
12/18/23	228
12/19/23	148
12/20/23	1585
12/21/23	86
12/26/23	41

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10
11/18/23	86
11/20/23	10
11/27/23	10
<i>Log Mean</i>	1.18689969
<u>STV</u>	<u>52.80483123</u>

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	10
1/8/24	30
1/14/24	52
1/16/24	31
1/22/24	98
1/29/24	31
<i>Log Mean</i>	1.527845677
<u>STV</u>	<u>88.47065286</u>

<i>Log Mean</i>	1.939505448
<u>STV</u>	<u>754.8176998</u>

FEBRUARY 2024*	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	448
2/2/24	63
2/4/24	10
2/5/24	305
2/6/24	72
2/12/24	10
2/20/24	31
2/26/24	10
<i>Log Mean</i>	1.660451574
<u>STV</u>	<u>321.7157381</u>

*Note: CSD data has not yet been reported

MONITORING STATION: CRISSY FIELD BEACH WEST (202.5)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	10	10
11/13/18	10	10
11/19/18	10	10
11/21/18	464	122
11/22/18	657	631
11/23/18	75	98
11/24/18	75	31
11/26/18	10	10
11/29/18	31	107
Log Mean	1.636174175	1.59981786
STV	368.3975234	277.7370071

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/1/18	512	383
12/2/18	10	10
12/3/18	10	10
12/10/18	10	10
12/17/18	20	41
12/24/18	10	10
12/31/18	10	10
Log Mean	1.287185708	1.313711804
STV	127.018381	122.6834538

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/7/19	52	20
1/14/19	10	10
1/22/19	10	10
1/28/19	10	10
Log Mean	1.179000836	1.075257499
STV	43.44691849	18.54461093

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	63	52
2/11/19	10	10
2/13/19	1500	1850
2/14/19	428	187
2/15/19	41	30
2/19/19	10	10
2/25/19	10	10
Log Mean	1.745665633	1.676019705
STV	721.5888644	577.0021768

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	20	20
3/11/19	31	20
3/18/19	10	10
3/25/19	31	10
Log Mean	1.320938346	1.150514998
STV	41.53127257	23.62252276

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	10	10
4/8/19	10	10
4/15/19	10	10
4/22/19	10	10
4/29/19	10	10
Log Mean	1	1
STV	10	10

MAY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	10	10
5/13/19	10	10
5/20/19	10	10
5/28/19	10	10
Log Mean	1	1
STV	10	10

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	10	10
6/17/19	10	10
6/24/19	10	10
Log Mean	1	1
STV	10	10

JULY 2019		
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<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	10
7/8/19	10	10
7/15/19	41	10
7/22/19	10	10
7/29/19	10	10
<i>Log Mean</i>	1.122556771	1
STV	29.77712814	10

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	20	10
8/12/19	10	10
8/19/19	10	75
8/26/19	10	10
<i>Log Mean</i>	1.075257499	1.218765316
STV	18.54461093	60.21151929

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	10	10
9/9/19	10	10
9/16/19	31	1565
9/17/19	41	10
9/23/19	52	10
9/30/19	10	10
<i>Log Mean</i>	1.303358149	1.36575239
STV	54.8312963	326.8171333

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	10	10
10/15/19	10	10
10/21/19	10	10
10/28/19	30	41
<i>Log Mean</i>	1.119280314	1.153195964
STV	26.61429938	35.15526827

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	10	10
11/12/19	41	20
11/18/19	10	10
11/25/19	10	41
<i>Log Mean</i>	1.153195964	1.228453463
STV	35.15526827	40.17375886

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	10	84
12/8/19	20	10
12/9/19	10	10
12/16/19	10	10
12/23/19	10	10
12/30/19	10	10
<i>Log Mean</i>	1.050171666	1.154046548
STV	16.13329339	43.43007504

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	52	10
1/13/20	20	10
1/16/20	52	158
1/17/20	63	20
1/21/20	10	10
1/27/20	10	10
<i>Log Mean</i>	1.422062872	1.249947847
STV	78.87589655	73.35941797

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	10	10
2/10/20	10	10
2/18/20	10	10
2/24/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

MARCH 2020		
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APRIL 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)

<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	10	10
3/9/20	10	10
3/16/20	20	10
3/23/20	10	10
3/30/20	10	10
<i>Log Mean</i>	1.060205999	1
STV	17.09207828	10

4/6/20	10	10
4/13/20	10	10
4/20/20	10	10
4/27/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

MAY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/4/20	10	10
5/11/20	10	10
5/18/20	10	10
5/26/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

JUNE 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/1/20	10	10
6/8/20	10	10
6/15/20	10	269
6/16/20	10	10
6/22/20	10	10
6/29/20	10	10
<i>Log Mean</i>	1	1.238292047
STV	10	96.958895

JULY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/6/20	10	10
7/13/20	10	10
7/20/20	10	10
7/27/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

AUGUST 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/3/20	10	10
8/10/20	10	10
8/17/20	10	10
8/24/20	10	10
8/31/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

SEPTEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/8/20	20	10
9/14/20	10	10
9/21/20	10	10
9/28/20	20	10
<i>Log Mean</i>	1.150514998	1
STV	23.62252276	10

OCTOBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/5/20	10	10
10/13/20	10	10
10/19/20	10	10
10/26/20	10	10
<i>Log Mean</i>	1	1
STV	10	10

NOVEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/2/20	10	10
11/9/20	10	10
11/16/20	31	20
11/23/20	10	10
11/30/20	10	10
<i>Log Mean</i>	1.098272339	1.060205999

DECEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/7/20	20	10
12/13/20	10	20
12/14/20	10	20
12/21/20	10	10
12/28/20	41	75

STV	23.98742734	17.09207828
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<i>Log Mean</i>	1.18276277	1.295424251
STV	34.14545538	56.68339048

JANUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/4/21	10	10
1/11/21	10	10
1/19/21	10	20
1/25/21	10	10
1/27/21	10	75
<i>Log Mean</i>	1	1.235218252
STV	10	52.87721497

FEBRUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/21	10	10
2/8/21	31	10
2/16/21	10	10
2/22/21	10	10
<i>Log Mean</i>	1.122840423	1
STV	27.40332549	10

MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/21	10	10
3/8/21	10	10
3/15/21	10	10
3/22/21	10	10
3/31/21	10	10
<i>Log Mean</i>	1	1
STV	10	10

APRIL 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/5/21	10
4/12/21	10
4/19/21	10
4/26/21	10
<i>Log Mean</i>	1
STV	10

MAY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/3/21	10
5/10/21	10
5/17/21	10
5/24/21	10
<i>Log Mean</i>	1
STV	10

JUNE 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	10
<i>Log Mean</i>	1
STV	10

JULY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/6/21	10
7/12/21	10
7/19/21	10
7/26/21	10
<i>Log Mean</i>	1
STV	10

AUGUST 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/2/21	10
8/9/21	10
8/16/21	10
8/23/21	10
8/30/21	10
<i>Log Mean</i>	1
STV	10

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)

9/13/21	10
9/20/21	10
9/27/21	10
<i>Log Mean</i>	<i>1</i>
STV	<u>10</u>

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	10
11/8/21	10
11/15/21	10
11/22/21	10
11/29/21	10
<i>Log Mean</i>	<i>1</i>
STV	<u>10</u>

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	10
1/10/22	10
1/18/22	10
1/24/22	10
1/31/22	10
<i>Log Mean</i>	<i>1</i>
STV	<u>10</u>

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	10
<i>Log Mean</i>	<i>1</i>
STV	<u>10</u>

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	10
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
<i>Log Mean</i>	<i>1</i>

10/4/21	10
10/12/21	432
10/13/21	10
10/18/21	31
10/24/21	305
10/25/21	241
10/26/21	41
<i>Log Mean</i>	<i>1.800849454</i>
STV	<u>494.8559621</u>

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	10
12/13/21	1904
12/14/21	74
12/20/21	10
12/23/21	85
12/27/21	160
12/28/21	10
<i>Log Mean</i>	<i>1.754633939</i>
STV	<u>687.6727144</u>

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/7/22	10
2/14/22	10
2/22/22	10
2/28/22	10
<i>Log Mean</i>	<i>1</i>
STV	<u>10</u>

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	41
4/18/22	10
4/25/22	10
<i>Log Mean</i>	<i>1.153195964</i>
STV	<u>35.15526827</u>

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10

STV	10
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JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	10
6/11/22	10
6/18/22	30
6/25/22	712
6/26/22	10
Log Mean	1.46592025
STV	312.1077153

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	10
9/12/22	10
9/19/22	52
9/26/22	10
Log Mean	1.179000836
STV	43.44691849

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	30
11/14/22	63
11/21/22	10
11/28/22	10
Log Mean	1.319115451
STV	66.1774099

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/23	31
1/3/23	20
1/9/23	487
1/10/23	52
1/10/23 (aft)	110
1/11/23	404
1/12/23	20
1/14/23	241
1/15/23	187
1/16/23	480
1/17/23	10
1/23/23	20

6/14/22	10
6/21/22	10
6/27/22	10
Log Mean	1
STV	10

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	10
8/15/22	10
8/22/22	10
8/29/22	10
Log Mean	1
STV	10

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	10
Log Mean	1
STV	10

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/1/22	10
12/5/22	10
12/12/22	10
12/19/22	10
12/27/22	624
12/28/22	10
12/31/22	1198
Log Mean	1.553377344
STV	588.147553

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	10
2/13/23	10
2/21/23	10
2/24/23	231

1/30/23	10
Log Mean	1.829296763
STV	449.6392987

2/25/23	20
2/27/23	556
2/28/23	85
Log Mean	1.619876528
STV	356.1515034

MARCH 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/6/23	10
3/13/23	10
3/14/23	85
3/20/23	10
3/27/23	10
Log Mean	1.185883785
STV	52.32937171

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	10
4/17/23	10
4/24/23	10
Log Mean	1
STV	10

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	10
5/8/23	10
5/15/23	10
5/22/23	10
5/30/23	10
Log Mean	1
STV	10

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	10
6/20/23	10
6/26/23	10
Log Mean	1
STV	10

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	10
7/10/23	10
7/17/23	10
7/24/23	10
7/31/23	10
Log Mean	1
STV	10

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	10
8/14/23	10
8/22/23	10
8/28/23	10
Log Mean	1
STV	10

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	10
9/18/23	10
9/25/23	10
Log Mean	1
STV	10

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10
10/23/23	10
10/30/23	10
Log Mean	1
STV	10

NOVEMBER 2023	
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DECEMBER 2023	
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<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10
11/18/23	1046
11/19/23	10
11/20/23	10
11/27/23	31
<i>Log Mean</i>	1.41848223
STV	285.173451

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	10
12/18/23	10
12/19/23	145
12/20/23	905
12/21/23	10
12/26/23	10
<i>Log Mean</i>	1.44543094
STV	291.1490007

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	10
1/8/24	10
1/14/24	10
1/16/24	10
1/22/24	323
1/23/24	10
1/29/24	31
<i>Log Mean</i>	1.285794888
STV	103.7900513

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	323
2/2/24	31
2/4/24	10
2/5/24	20
2/12/24	10
2/20/24	399
2/21/24	10
2/26/24	10
<i>Log Mean</i>	1.487820888
STV	231.1643281

MONITORING STATION: AQUATIC PARK - HYDE STREET PIER (210.1)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	10	52
11/13/18	10	10
11/19/18	10	10
11/21/18	63	10
11/22/18	52	20
11/26/18	41	10
11/29/18	31	31
<i>Log Mean</i>	1.374212778	1.215485005
STV	69.00765472	39.15428651

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/3/18	10	10
12/10/18	10	10
12/17/18	98	31
<i>Log Mean</i>	1.330408692	1.163787231
STV	115.8984432	33.68798219

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/29/19	10	10
<i>Log Mean</i>	1	1
STV	#DIV/0!	#DIV/0!

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	10	10
2/11/19	10	10
2/13/19	97	75
2/19/19	10	10
2/25/19	216	10
<i>Log Mean</i>	1.464245097	1.175012253
STV	196.9251435	47.50170819

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	20	10
3/11/19	31	20
3/18/19	197	20
3/25/19	20	10
<i>Log Mean</i>	1.596971978	1.150514998
STV	159.9900506	23.62252276

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	10	10
4/8/19	85	10
4/15/19	20	10
4/22/19	10	10
4/29/19	10	10
<i>Log Mean</i>	1.246089784	1
STV	58.01377533	10

MAY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	10	10
5/13/19	20	10
5/20/19	10	10
5/28/19	10	10
<i>Log Mean</i>	1.075257499	1
STV	18.54461093	10

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	52	20
6/17/19	10	10
6/24/19	10	10
<i>Log Mean</i>	1.179000836	1.075257499
STV	43.44691849	18.54461093

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	10

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)

7/8/19	10	10
7/15/19	10	10
7/22/19	10	10
7/29/19	10	10
<i>Log Mean</i>	<i>1</i>	<i>1</i>
STV	10	10

8/5/19	10	10
8/12/19	10	10
8/19/19	20	10
8/26/19	10	10
<i>Log Mean</i>	<i>1.075257499</i>	<i>1</i>
STV	18.54461093	10

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	231	10
9/9/19	677	10
9/10/19	63	10
9/16/19	10	10
9/23/19	31	10
9/30/19	10	10
<i>Log Mean</i>	<i>1.747483815</i>	<i>1</i>
STV	496.8751553	10

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	31	10
10/15/19	10	10
10/21/19	10	10
10/28/19	10	10
<i>Log Mean</i>	<i>1.122840423</i>	<i>1</i>
STV	27.40332549	10

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	10	10
11/12/19	10	10
11/18/19	10	10
11/25/19	10	10
<i>Log Mean</i>	<i>1</i>	<i>1</i>
STV	10	10

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	98	10
12/8/19	538	226
12/9/19	63	10
12/16/19	10	10
12/23/19	10	20
12/30/19	10	10
<i>Log Mean</i>	<i>1.586891483</i>	<i>1.275856406</i>
STV	318.0534897	93.41641126

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	10	20
1/13/20	10	10
1/16/20	10	10
1/21/20	10	10
1/27/20	20	10
<i>Log Mean</i>	<i>1.060205999</i>	<i>1.060205999</i>
STV	17.09207828	17.09207828

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	20	10
2/10/20	41	10
2/18/20	75	20
2/24/20	10	10
<i>Log Mean</i>	<i>1.447218779</i>	<i>1.075257499</i>
STV	85.82457557	18.54461093

MARCH 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	20	10
3/9/20	20	10
3/16/20	10	10
<i>Log Mean</i>	<i>1.200686664</i>	<i>1</i>
STV	26.51538528	10

SEPTEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/8/20	10	10
<i>Log Mean</i>	<i>1</i>	<i>1</i>
STV	#DIV/0!	#DIV/0!

APRIL 2021		
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MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/22/21	no data	10
3/31/21	10	10
<i>Log Mean</i>	1	1
STV	#DIV/0!	10

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/5/21	10
4/12/21	20
4/19/21	10
4/26/21	10
<i>Log Mean</i>	1.075257499
STV	18.54461093

MAY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/3/21	10
5/10/21	10
5/17/21	10
5/24/21	10
<i>Log Mean</i>	1
STV	10

JUNE 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	10
<i>Log Mean</i>	1
STV	10

JULY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/6/21	10
7/12/21	10
7/19/21	10
7/26/21	10
<i>Log Mean</i>	1
STV	10

AUGUST 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/2/21	10
8/9/21	10
8/16/21	10
8/23/21	10
8/30/21	10
8/31/21	10
<i>Log Mean</i>	1
STV	10

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10
9/13/21	10
9/20/21	10
9/27/21	10
<i>Log Mean</i>	1
STV	10

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/4/21	10
10/12/21	10
10/18/21	10
10/24/21	63
10/25/21	181
10/26/21	20
<i>Log Mean</i>	1.393008187
STV	116.8515128

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	10
11/8/21	10
11/15/21	10

DECEMBER 2021	
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11/22/21	10
11/29/21	10
<i>Log Mean</i>	<i>1</i>
<u>STV</u>	<u>10</u>

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	10
1/10/22	226
1/11/22	10
1/18/22	10
1/25/22	10
1/31/22	10
<i>Log Mean</i>	<i>1.22568474</i>
<u>STV</u>	<u>85.97858782</u>

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	10
<i>Log Mean</i>	<i>1</i>
<u>STV</u>	<u>10</u>

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	10
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
<i>Log Mean</i>	<i>1</i>
<u>STV</u>	<u>10</u>

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	20
6/11/22	10
6/18/22	10
6/25/22	10

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	10
12/13/21	20
12/20/21	10
12/23/21	30
12/27/21	20
<i>Log Mean</i>	<i>1.215836249</i>
<u>STV</u>	<u>30.52934654</u>

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/7/22	10
2/14/22	10
2/22/22	10
2/28/22	10
<i>Log Mean</i>	<i>1</i>
<u>STV</u>	<u>10</u>

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	10
4/18/22	10
4/25/22	10
<i>Log Mean</i>	<i>1</i>
<u>STV</u>	<u>10</u>

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	10
<i>Log Mean</i>	<i>1</i>
<u>STV</u>	<u>10</u>

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	10
8/15/22	10

<i>Log Mean</i>	1.075257499
STV	18.54461093

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	31
9/12/22	20
9/19/22	10
9/26/22	10
<i>Log Mean</i>	1.198097922
STV	32.19621662

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	63
11/14/22	10
11/21/22	10
11/28/22	10
<i>Log Mean</i>	1.199835137
STV	51.54807237

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/23	10
1/9/23	52
1/10/23	31
1/12/23	41
1/14/23	31
1/16/23	51
1/17/23	20
1/23/23	20
1/30/23	10
<i>Log Mean</i>	1.402348973
STV	56.52723448

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	31
7/10/23	10
7/17/23	10
7/24/23	10
7/31/23	74

8/22/22	10
8/29/22	10
<i>Log Mean</i>	1
STV	10

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	10
<i>Log Mean</i>	1
STV	10

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/1/22	10
12/5/22	10
12/12/22	10
12/19/22	10
12/27/22	41
12/31/22	20
<i>Log Mean</i>	1.152302309
STV	30.20835718

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	10
2/13/23	10
2/21/23	10
2/24/23	10
2/27/23	10
<i>Log Mean</i>	1
STV	10

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	183
8/14/23	10
8/22/23	74
8/28/23	10

<i>Log Mean</i>	1.272118683
STV	60.19848442

<i>Log Mean</i>	1.532920702
STV	222.9559988

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	10
9/18/23	10
9/25/23	10
<i>Log Mean</i>	1
STV	10

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10
10/23/23	41
10/30/23	10
<i>Log Mean</i>	1.122556771
STV	29.77712814

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10
11/18/23	583
11/19/23	52
11/20/23	10
11/27/23	10
<i>Log Mean</i>	1.413611983
STV	218.1474393

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	10
12/18/23	52
12/19/23	31
12/20/23	121
12/21/23	10
12/26/23	10
<i>Log Mean</i>	1.327164344
STV	78.52994366

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	20
1/8/24	10
1/14/24	63
1/16/24	10
1/22/24	41
1/29/24	10
<i>Log Mean</i>	1.285525734
STV	54.38463699

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	75
2/4/24	10
2/5/24	10
2/12/24	10
2/20/24	134
2/21/24	41
2/26/24	10
<i>Log Mean</i>	1.373564274
STV	100.1076891

*Note: CSD data has not yet been reported

MONITORING STATION: AQUATIC PARK - BEACH EAST END (211)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	10	10
11/13/18	10	10
11/19/18	10	10
11/21/18	41	52
11/26/18	10	10
11/29/18	41	75
<i>Log Mean</i>	1.204261286	1.265177435
STV	40.73217972	62.4841892

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/3/18	216	243
12/4/18	10	85
12/10/18	10	10
12/17/18	10	20
12/24/18	41	10
12/31/18	31	10
<i>Log Mean</i>	1.406433217	1.436009199
STV	122.0101655	155.2080979

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/7/19	110	52
1/14/19	63	31
1/22/19	31	10
1/28/19	616	359
1/29/19	31	10
<i>Log Mean</i>	1.922607467	1.552491897
STV	408.1948286	237.0923112

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	10	41
2/11/19	41	10
2/13/19	169	96
2/19/19	10	10
2/25/19	10	10
<i>Log Mean</i>	1.368134112	1.319011018
STV	118.01843	80.08008643

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	41	31
3/11/19	20	10
3/18/19	272	10
3/25/19	41	20
<i>Log Mean</i>	1.740291653	1.198097922
STV	230.6003369	32.19621662

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	10	10
4/8/19	10	10
4/15/19	75	10
4/22/19	10	10
4/29/19	10	10
<i>Log Mean</i>	1.175012253	1
STV	47.50170819	10

MAY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	20	10
5/13/19	20	10
5/20/19	10	10
5/28/19	10	10
<i>Log Mean</i>	1.150514998	1
STV	23.62252276	10

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	134	10
6/17/19	10	10
6/24/19	63	20
<i>Log Mean</i>	1.481611337	1.075257499
STV	164.0214425	18.54461093

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	1172	359
7/2/19	73	175
7/3/19	10	10

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	20	10
8/6/19	73	20
8/12/19	209	10

7/8/19	52	109
7/9/19	10	10
7/15/19	31	10
7/22/19	41	10
7/29/19	30	10
7/31/19	20	10
<i>Log Mean</i>	1.614505624	1.426173222
STV	256.6448048	183.0467368

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/1/19	31	10
10/7/19	135	10
10/15/19	2187	272
10/16/19	10	52
10/21/19	74	20
10/28/19	10	10
<i>Log Mean</i>	1.805129328	1.408600374
STV	854.2034139	140.3394413

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	20	20
12/8/19	414	231
12/9/19	41	10
12/16/19	10	10
12/23/19	10	20
12/30/19	10	10
<i>Log Mean</i>	1.421802366	1.327611995
STV	171.9110558	101.2003872

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	20	10
2/10/20	41	10
2/18/20	52	10
2/24/20	31	20
<i>Log Mean</i>	1.530294722	1.075257499
STV	57.39478275	18.54461093

APRIL 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/6/20	10	10
4/13/20	10	10

8/19/19	31	10
8/26/19	31	31
<i>Log Mean</i>	1.693444506	1.158478338
STV	163.3504546	28.16748679

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	41	20
9/9/19	10	10
9/16/19	52	10
9/23/19	20	10
9/30/19	464	175
<i>Log Mean</i>	1.659267035	1.308813609
STV	292.2340913	99.74112808

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	41	10
11/12/19	41	20
11/18/19	41	10
11/25/19	364	882
11/26/19	231	10
<i>Log Mean</i>	1.952612987	1.449299716
STV	359.6206901	342.3635482

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	10	10
1/13/20	30	10
1/16/20	10	41
1/21/20	31	20
1/27/20	10	10
<i>Log Mean</i>	1.19369659	1.18276277
STV	34.18083588	34.14545538

MARCH 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	20	10
3/9/20	145	10
3/16/20	10	10
3/23/20	120	63
3/30/20	41	10
<i>Log Mean</i>	1.63087262	1.15986811
STV	185.5701103	41.50995782

4/20/20	10	31
4/27/20	10	20
Log Mean	1	1.198097922
STV	10	32.19621662

JUNE 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
6/1/20	75	10
6/8/20	10	10
6/15/20	10	10
6/22/20	20	10
6/29/20	10	10
Log Mean	1.235218252	1
STV	52.87721497	10

AUGUST 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
8/3/20	2014	20
8/4/20	10	10
8/10/20	10	10
8/17/20	20	10
8/24/20	10	10
8/31/20	74	52
Log Mean	1.57905353	1.169505557
STV	557.2286139	35.14384988

OCTOBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
10/5/20	30	10
10/13/20	10	10
10/19/20	10	10
10/26/20	10	10
Log Mean	1.119280314	1
STV	26.61429938	10

DECEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
12/7/20	41	10
12/13/20	10	10
12/14/20	146	189
12/15/20	10	10
12/21/20	20	10

MAY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
5/4/20	10	10
5/11/20	10	10
5/18/20	20	10
5/26/20	10	52
Log Mean	1.075257499	1.179000836
STV	18.54461093	43.44691849

JULY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
7/6/20	41	10
7/13/20	30	10
7/20/20	10	10
7/27/20	10	10
Log Mean	1.272476278	1
STV	48.08743495	10

SEPTEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
9/8/20	20	10
9/14/20	41	20
9/21/20	10	10
9/28/20	10	10
Log Mean	1.228453463	1.075257499
STV	40.17375886	18.54461093

NOVEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
11/2/20	20	40
11/9/20	31	10
11/16/20	31	31
11/23/20	31	10
11/30/20	31	20
Log Mean	1.453295354	1.278890336
STV	36.51050278	42.97946769

JANUARY 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
1/4/21	10	10

12/28/20	185	96
Log Mean	1.557556406	1.376455506
STV	188.0103649	136.0108997

FEBRUARY 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
2/1/21	10	10
2/8/21	1658	168
2/9/21	63	10
2/16/21	75	10
2/22/21	31	10
Log Mean	1.877069607	1.245061856
STV	861.9450242	88.62694254

APRIL 2021	
Sampling Date	Enterococci (MPN/100mL)
4/5/21	228
4/6/21	10
4/12/21	10
4/19/21	10
4/26/21	20
Log Mean	1.331792969
STV	121.880769

JUNE 2021	
Sampling Date	Enterococci (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	20
Log Mean	1.060205999
STV	17.09207828

AUGUST 2021	
Sampling Date	Enterococci (MPN/100mL)
8/2/21	10
8/3/21	10
8/9/21	10
8/16/21	10
8/23/21	86
8/30/21	10
Log Mean	1.155749742
STV	44.14100556

1/11/21	52	41
1/19/21	10	10
1/25/21	20	74
1/27/21	203	171
1/28/21	171	30
Log Mean	1.592920915	1.532022157
STV	221.6449052	142.890055

MARCH 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
3/1/21	10	10
3/8/21	145	246
3/9/21	10	10
3/15/21	10	10
3/22/21	10	10
3/31/21	41	20
Log Mean	1.295691976	1.281994184
STV	83.87966243	98.93863047

MAY 2021	
Sampling Date	Enterococci (MPN/100mL)
5/3/21	10
5/10/21	10
5/17/21	10
5/24/21	10
Log Mean	1
STV	10

JULY 2021	
Sampling Date	Enterococci (MPN/100mL)
7/6/21	10
7/12/21	10
7/19/21	10
7/20/21	10
7/26/21	10
Log Mean	1
STV	10

SEPTEMBER 2021	
Sampling Date	Enterococci (MPN/100mL)
9/7/21	10
9/13/21	10
9/20/21	10
9/27/21	10

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/4/21	10
10/12/21	10
10/18/21	10
10/24/21	481
10/25/21	496
10/26/21	63
Log Mean	1.696161217
STV	573.8660355

Log Mean	1
STV	10

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	10
11/8/21	10
11/15/21	10
11/22/21	10
11/29/21	10
Log Mean	1
STV	10

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	10
12/13/21	189
12/14/21	31
12/20/21	10
12/23/21	10
12/27/21	10
Log Mean	1.29463725
STV	91.36194517

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	10
1/10/22	52
1/18/22	10
1/24/22	10
1/31/22	10
Log Mean	1.143200669
STV	35.78535349

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/7/22	10
2/14/22	63
2/22/22	10
2/28/22	41
Log Mean	1.353031102
STV	76.67876193

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	1616
3/29/22	10
Log Mean	1.441688271
STV	510.3277219

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	10
4/18/22	10
4/25/22	10
Log Mean	1
STV	10

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	10
5/9/22	10
5/16/22	30
5/23/22	10
5/31/22	10
Log Mean	1.095424251
STV	23.38681845

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)

JULY 2022	
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6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	20
Log Mean	1.075257499
STV	18.54461093

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	10
6/11/22	10
6/18/22	10
6/25/22	10
Log Mean	1
STV	10

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	10
8/15/22	10
8/22/22	10
8/29/22	10
Log Mean	1
STV	10

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	10
9/12/22	10
9/19/22	41
9/26/22	41
Log Mean	1.306391928
STV	57.53762001

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	20
Log Mean	1.060205999
STV	17.09207828

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	441
11/8/22	146
11/9/22	10
11/14/22	10
11/21/22	10
11/28/22	10
Log Mean	1.468131908
STV	261.8338133

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/1/22	52
12/5/22	10
12/12/22	41
12/19/22	10
12/27/22	41
12/31/22	241
Log Mean	1.55393135
STV	164.3506068

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/23	142
1/3/23	74
1/9/23	169
1/10/23	20
1/10/23 (aft)	52
1/12/23	31
1/14/23	31
1/16/23	75
1/17/23	31
1/23/23	10
1/30/23	10
Log Mean	1.60141695
STV	135.1680741

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	420
2/13/23	10
2/21/23	10
2/24/23	10
2/25/23	10

MARCH 2023	
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2/27/23	10
Log Mean	1.270541548
STV	131.858619

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	10
4/17/23	10
4/24/23	10
Log Mean	1
STV	10

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	10
6/20/23	10
6/26/23	10
Log Mean	1
STV	10

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	10
8/14/23	10
8/22/23	31
8/28/23	10
Log Mean	1.122840423
STV	27.40332549

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	20
10/10/23	31
10/17/23	10
10/23/23	10
10/30/23	41
Log Mean	1.281035109
STV	43.59676811

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/6/23	41
3/13/23	31
3/14/23	31
3/20/23	10
3/27/23	10
Log Mean	1.319101449
STV	49.87863478

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	10
5/8/23	10
5/15/23	10
5/22/23	10
5/30/23	10
Log Mean	1
STV	10

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	31
7/10/23	31
7/17/23	10
7/24/23	20
7/31/23	10
Log Mean	1.256750677
STV	37.43760706

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	41
9/11/23	10
9/18/23	41
9/25/23	10
Log Mean	1.306391928
STV	57.53762001

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	20
12/18/23	31
12/19/23	75
12/20/23	52
12/26/23	20
<i>Log Mean</i>	1.447414382
STV	71.25480983

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	203
2/2/24	10
2/4/24	31
2/5/24	31
2/12/24	10
2/20/24	355
2/21/24	51
2/26/24	10
<i>Log Mean</i>	1.568502244
STV	216.9128019

*Note: CSD data has not yet been reported

11/18/23	355
11/19/23	31
11/20/23	10
11/27/23	41
<i>Log Mean</i>	1.442395651
STV	166.4691632

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	10
1/8/24	52
1/14/24	20
1/16/24	41
1/22/24	20
1/29/24	10
<i>Log Mean</i>	1.321807865
STV	50.7656404

MONITORING STATION: MISSION CREEK - KAYAK PIER (220)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	10	10
11/13/18	10	10
11/19/18	10	10
11/21/18	24196	24196
11/22/18	6867	908
11/23/18	1137	414
11/24/18	448	63
11/25/18	160	10
11/26/18	31	10
11/29/18	1223	488
11/30/18	368	109
<i>Log Mean</i>	2.388755005	1.953092421
STV	7784.539104	2425.600335

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/1/18	691	161
12/2/18	52	20
12/3/18	74	20
12/10/18	20	10
12/17/18	24196	6131
12/18/18	10	10
12/24/18	10	10
12/31/18	75	10
<i>Log Mean</i>	1.998068493	1.574552148
STV	2823.703783	683.9845157

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/19	24196	24196
1/7/19	6488	1112
1/8/19	169	10
1/14/19	10	10
1/16/19	12033	3654
1/17/19	24196	24196
1/18/19	2755	457
1/19/19	156	75
1/22/19	52	31
1/28/19	20	20
1/31/19	2187	144
<i>Log Mean</i>	2.897998813	2.442008375
STV	31690.28822	11544.57282
Reported GM	791	277

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/19	144	30
2/4/19	529	262
2/5/19	10	10
2/11/19	20	10
2/13/19	24196	24196
2/14/19	24196	24196
2/15/19	17329	1153
2/16/19	2014	63
2/17/19	670	52
2/18/19	97	30
2/19/19	52	20
2/25/19	10	20
<i>Log Mean</i>	2.58516818	2.109938679
STV	16387.80533	4614.490493

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	63	86
3/6/19	24196	24196
3/7/19	1956	279
3/8/19	216	10
3/11/19	20	10
3/18/19	41	10
3/20/19	24196	24196
3/21/19	63	10
3/25/19	41	20
<i>Log Mean</i>	2.502065396	2.049846645
STV	11359.76705	7324.305081

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	10	10
4/8/19	31	10
4/15/19	10	10
4/22/19	10	10
4/29/19	10	10
<i>Log Mean</i>	1.098272339	1
STV	23.98742734	10

MAY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	10	10
5/13/19	10	10
5/20/19	10	10

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	31	10
6/17/19	10	20
6/24/19	10	471
6/25/19	10	10
<i>Log Mean</i>	1.098272339	1.394810181
STV	23.98742734	211.821478

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	10	10
8/12/19	10	10
8/19/19	10	10
8/26/19	10	10
<i>Log Mean</i>	1	1
STV	10	10

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	10	10
10/15/19	10	10
10/21/19	10	10
10/28/19	30	10
<i>Log Mean</i>	1.119280314	1
STV	26.61429938	10

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	228	171
12/3/19	10	10
12/8/19	5172	1842
12/9/19	789	298
12/10/19	146	86
12/16/19	20	10
12/23/19	41	10
12/30/19	135	51
<i>Log Mean</i>	2.147146355	1.826821328
STV	1866.053265	759.712888

FEBRUARY 2020		
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5/28/19	10	10
<i>Log Mean</i>	1	1
STV	10	10

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	10
7/8/19	31	10
7/15/19	10	10
7/22/19	10	10
7/29/19	10	10
<i>Log Mean</i>	1.098272339	1
STV	23.98742734	10

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	10	10
9/9/19	10	10
9/16/19	121	10
9/23/19	10	10
9/30/19	20	10
<i>Log Mean</i>	1.276763073	1
STV	75.52537648	10

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	10	10
11/12/19	10	10
11/18/19	10	10
11/25/19	10	10
11/27/19	6867	3448
11/28/19	504	218
11/29/19	691	537
11/30/19	121	63
<i>Log Mean</i>	1.932682625	1.800667323
STV	2233.061311	1143.052983

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	10	10
1/13/20	10	10
1/16/20	24196	17329
1/17/20	1679	169
1/18/20	404	63

<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	52	31
2/10/20	10	10
2/18/20	10	10
2/24/20	10	10
<i>Log Mean</i>	1.179000836	1.122840423
STV	43.44691849	27.40332549

1/19/20	521	97
1/20/20	315	75
1/21/20	216	51
1/27/20	63	10
<i>Log Mean</i>	2.396013135	1.870600437
STV	5751.985382	1435.46358

MARCH 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	10	10
3/9/20	10	10
3/16/20	10	10
3/23/20	41	10
3/30/20	10	10
<i>Log Mean</i>	1.122556771	1
STV	29.77712814	10

APRIL 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/6/20	31	10
4/13/20	10	10
4/20/20	10	10
4/27/20	10	10
<i>Log Mean</i>	1.122840423	1
STV	27.40332549	10

MAY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/11/20	20	10
5/18/20	10	10
5/26/20	10	10
<i>Log Mean</i>	1.100343332	1
STV	21.04527525	10

JUNE 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/1/20	41	10
6/8/20	10	10
6/15/20	10	10
6/22/20	10	10
6/29/20	10	10
<i>Log Mean</i>	1.122556771	1
STV	29.77712814	10

JULY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/6/20	30	10
7/13/20	31	10
7/20/20	10	10
7/27/20	20	10
<i>Log Mean</i>	1.317378236	1
STV	40.78055777	10

AUGUST 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/3/20	10	10
8/10/20	10	10
8/17/20	86	10
8/24/20	10	10
8/31/20	20	10
<i>Log Mean</i>	1.247105689	1
STV	58.51996623	10

SEPTEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/8/20	10	10
9/14/20	20	10
9/21/20	31	10
9/28/20	31	10
<i>Log Mean</i>	1.320938346	1
STV	41.53127257	10

OCTOBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/5/20	10	10
10/13/20	10	10
10/19/20	20	10
10/26/20	10	10
<i>Log Mean</i>	1.075257499	1
STV	18.54461093	10

NOVEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/2/20	10	10
11/9/20	10	10
11/16/20	10	10
11/23/20	10	10
11/30/20	10	10
Log Mean	1	1
STV	10	10

DECEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/7/20	20	10
12/14/20	10	30
12/21/20	10	10
12/28/20	10	10
Log Mean	1.075257499	1.119280314
STV	18.54461093	26.61429938

JANUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/4/21	135	10
1/11/21	10	10
1/19/21	20	10
1/25/21	10	10
1/27/21	24196	14136
1/28/21	471	272
1/29/21	2489	1565
1/30/21	109	132
1/31/21	41	31
Log Mean	2.170484833	1.932371712
STV	4342.672072	2506.727637

FEBRUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/21	135	41
2/8/21	10	10
2/16/21	30	10
2/22/21	31	10
Log Mean	1.524704179	1.153195964
STV	131.632501	35.15526827

MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/21	10	10
3/8/21	41	10
3/15/21	10	20
3/22/21	10	10
3/31/21	10	10
Log Mean	1.122556771	1.060205999
STV	29.77712814	17.09207828

APRIL 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/5/21	10
4/12/21	10
4/19/21	10
4/26/21	10
Log Mean	1
STV	10

MAY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/3/21	10
5/10/21	10
5/17/21	20
5/24/21	10
Log Mean	1.075257499
STV	18.54461093

JUNE 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	20
Log Mean	1.060205999
STV	17.09207828

JULY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/6/21	10
7/12/21	10
7/19/21	10
7/26/21	10

AUGUST 2021	
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<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/2/21	10
8/9/21	10
8/16/21	10
8/23/21	20
8/30/21	10
<i>Log Mean</i>	1.060205999
STV	17.09207828

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/4/21	10
10/12/21	10
10/18/21	10
10/24/21	24196
10/25/21	9804
10/26/21	98
10/27/21	63
<i>Log Mean</i>	2.166530501
STV	10387.33047

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	10
12/13/21	46361
12/14/21	14562
12/15/21	263
12/16/21	2974
12/17/21	10
12/18/21	20
12/19/21	10
12/20/21	10
12/23/21	6408
12/24/21	2467
12/25/21	20
12/26/21	31
12/27/21	445
12/28/21	20
12/29/21	20
12/30/21	63
<i>Log Mean</i>	2.407162095
STV	10575.20056

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/7/22	10

<i>Log Mean</i>	1
STV	10

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10
9/13/21	10
9/20/21	10
9/27/21	10
<i>Log Mean</i>	1
STV	10

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	183
11/2/21	187
11/3/21	63
11/8/21	20
11/9/21	13473
11/10/21	20
11/11/21	10
11/12/21	10
11/15/21	30
11/22/21	10
11/29/21	10
<i>Log Mean</i>	1.685661709
STV	783.1157401

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	10
1/10/22	10
1/18/22	20
1/24/22	20
1/31/22	10
<i>Log Mean</i>	1.120411998
STV	21.46788878

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	63
<i>Log Mean</i>	1.199835137

2/14/22	10
2/22/22	10
2/28/22	10
Log Mean	1
STV	10

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	10
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
Log Mean	1
STV	10

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	10
6/11/22	10
6/18/22	10
6/25/22	10
Log Mean	1
STV	10

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	10
9/12/22	10
9/19/22	10
9/26/22	10
Log Mean	1
STV	10

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	10
11/14/22	10
11/21/22	10
11/28/22	10
Log Mean	1
STV	10

STV	104.3357552
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APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	20
4/18/22	10
4/25/22	10
Log Mean	1.075257499
STV	18.54461093

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	10
Log Mean	1
STV	10

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	10
8/15/22	10
8/22/22	10
8/29/22	10
Log Mean	1
STV	10

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	10
Log Mean	1
STV	10

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/23	1634
1/2/23	393
1/3/23	183
1/4/23	774
1/5/23	3150
1/6/23	2019
1/7/23	10
1/8/23	122
1/9/23	37782
1/10/23	47241
1/11/23	1271
1/12/23	12274
1/13/23	1041
1/14/23	24105
1/15/23	116
1/16/23	24060
1/17/23	20
1/18/23	75
1/19/23	259
1/20/23	31
1/21/23	110
1/22/23	171
1/23/23	31
1/30/23	10
Log Mean 2.707716406	
STV	14547.49911

12/1/22	22444
12/2/22	2935
12/3/22	297
12/4/22	131
12/5/22	10
12/6/22	98
12/7/22	10
12/12/22	20
12/19/22	10
12/27/22	6637
12/28/22	537
12/29/22	178
12/30/22	148
12/31/22	32985
Log Mean 2.442281178	
STV	9779.209984

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	31
2/13/23	20
2/21/23	20
2/24/23	1265
2/25/23	41
2/26/23	122
2/27/23	336
2/28/23	323
Log Mean 1.991274712	
STV	708.5723335

MARCH 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/1/23	10
3/6/23	10
3/10/23	3466
3/11/23	414
3/12/23	175
3/13/23	10
3/14/23	81252
3/15/23	10
3/16/23	30
3/17/23	10
3/18/23	10
3/19/23	148
3/20/23	52
3/22/23	24705
3/23/23	815
3/24/23	41
3/25/23	41
3/26/23	41
3/27/23	10
3/29/23	131

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	31
4/10/23	10
4/11/23	10
4/17/23	10
4/24/23	10
Log Mean 1.098272339	
STV	23.98742734

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	10
5/8/23	10
5/15/23	10
5/22/23	10
5/30/23	10
Log Mean 1	
STV	10

3/30/23	10
Log Mean	1.949173936
STV	2681.448241

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	10
7/10/23	10
7/17/23	10
7/24/23	10
7/31/23	10
Log Mean	1
STV	10

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	10
9/18/23	10
9/25/23	10
Log Mean	1
STV	10

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	20
11/13/23	10
11/18/23	13830
11/19/23	10
11/20/23	20
11/21/23	31
11/22/23	10
11/23/23	10
11/24/23	10
11/27/23	10
Log Mean	1.423424387
STV	466.557767

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/24	10
1/2/24	10
1/8/24	52
1/14/24	4653
1/15/24	279

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	10
6/20/23	10
6/26/23	10
Log Mean	1
STV	10

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	10
8/14/23	10
8/22/23	10
8/28/23	10
Log Mean	1
STV	10

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10
10/23/23	10
10/30/23	10
Log Mean	1
STV	10

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	10
12/18/23	3076
12/18/23	49769
12/19/23	18706
12/20/23	3573
12/21/23	11620
12/22/23	774
12/23/23	160
12/24/23	122
12/25/23	10
12/26/23	30
12/30/23	3292
12/31/23	126
Log Mean	2.667809837

1/16/24	52
1/17/24	98
1/18/24	20
1/19/24	31
1/20/24	20
1/22/24	18344
1/23/24	388
1/24/24	1135
1/25/24	20
1/26/24	20
1/27/24	10
1/28/24	10
1/29/24	10
Log Mean	1.841076296
STV	1268.885472

STV	20739.53064
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FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	288
2/2/24	199
2/3/24	20
2/4/24	86
2/5/24	2613
2/6/24	41
2/8/24	41
2/12/24	10
2/20/24	24196
2/21/24	10462
2/22/24	41
2/26/24	20
Log Mean	2.246137773
STV	5969.702705

*Note: CSD data has not yet been reported

MONITORING STATION: CRANE COVE PARK (230)

JANUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/4/21	20	10
1/11/21	218	10
1/19/21	20	62
1/25/21	10	10
1/27/21	52	97
1/29/21	20	30
<i>Log Mean</i>	1.492924971	1.376047446
STV	125.6528501	87.86950548

FEBRUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/21	10	10
2/8/21	10	10
2/16/21	10	10
2/22/21	10	41
<i>Log Mean</i>	1	1.153195964
STV	10	35.15526827

MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/21	10	10
3/8/21	10	10
3/15/21	10	10
3/22/21	10	10
3/31/21	10	10
<i>Log Mean</i>	1	1
STV	10	10

APRIL 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/5/21	10
4/12/21	10
4/19/21	10
4/26/21	20
<i>Log Mean</i>	1.075257499
STV	18.54461093

MAY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/3/21	20
5/10/21	10
5/17/21	10
5/24/21	10
<i>Log Mean</i>	1.075257499
STV	18.54461093

JUNE 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	30
<i>Log Mean</i>	1.095424251
STV	23.38681845

JULY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/6/21	20
7/12/21	20
7/19/21	10
7/26/21	10
<i>Log Mean</i>	1.150514998
STV	23.62252276

AUGUST 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/2/21	10
8/9/21	10
8/16/21	10
8/23/21	10
8/30/21	10
<i>Log Mean</i>	1
STV	10

SEPTEMBER 2021	
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OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10
9/13/21	10
9/20/21	10
9/21/21	20
9/27/21	10
<i>Log Mean</i>	1.060205999
STV	17.09207828

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	10
11/8/21	3255
11/9/21	201
11/10/21	10
11/15/21	10
11/22/21	52
11/29/21	10
<i>Log Mean</i>	1.647392913
STV	676.4981756

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	10
1/10/22	12033
1/11/22	10
1/18/22	10
1/24/22	10
1/31/22	10
<i>Log Mean</i>	1.513395653
STV	1335.316517

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	41
3/14/22	10
3/21/22	10
3/28/22	10
<i>Log Mean</i>	1.153195964
STV	35.15526827

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)

10/4/21	350
10/5/21	20
10/12/21	10
10/18/21	10
10/21/21	24196
10/22/21	86
10/24/21	24196
10/25/21	341
10/26/21	30
<i>Log Mean</i>	2.284106586
STV	9529.503529

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	10
12/13/21	428
12/14/21	959
12/15/21	41
12/16/21	52
12/20/21	10
12/23/21	10
12/27/21	41
<i>Log Mean</i>	1.694354179
STV	460.2073513

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/7/22	10
2/14/22	10
2/22/22	10
2/28/22	10
<i>Log Mean</i>	1
STV	10

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	10
4/18/22	10
4/25/22	10
<i>Log Mean</i>	1
STV	10

5/2/22	10
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
<i>Log Mean</i>	<i>1</i>
STV	10

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	10
6/11/22	10
6/18/22	10
6/25/22	10
<i>Log Mean</i>	<i>1</i>
STV	10

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	10
9/12/22	10
9/19/22	10
9/20/22	10
9/26/22	10
<i>Log Mean</i>	<i>1</i>
STV	10

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	10
11/14/22	10
11/21/22	10
11/28/22	10
<i>Log Mean</i>	<i>1</i>
STV	10

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/23	121
1/2/23	31
1/3/23	134
1/4/23	52
1/5/23	30

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10
6/14/22	10
6/21/22	41
6/27/22	256
6/28/22	10
<i>Log Mean</i>	<i>1.505255956</i>
STV	229.7523952

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	20
8/15/22	10
8/22/22	10
8/29/22	10
<i>Log Mean</i>	<i>1.060205999</i>
STV	17.09207828

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	20
10/31/22	10
<i>Log Mean</i>	<i>1.060205999</i>
STV	17.09207828

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/1/22	30
12/2/22	86
12/5/22	10
12/12/22	30
12/19/22	10
12/27/22	216
12/28/22	20
12/31/22	6488
<i>Log Mean</i>	<i>1.792041944</i>
STV	972.1692622

1/6/23	75
1/8/23	31
1/9/23	52
1/10/23	161
1/11/23	110
1/12/23	121
1/13/23	41
1/14/23	520
1/15/23	63
1/16/23	218
1/17/23	52
1/23/23	10
1/30/23	10
Log Mean	1.805021904
STV	232.3090795

MARCH 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/6/23	10
3/10/23	2359
3/11/23	31
3/13/23	31
3/14/23	7270
3/15/23	20
3/19/23	3076
3/20/23	10
3/22/23	6131
3/23/23	31
Log Mean	2.228489508
STV	6290.867587

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	10
6/20/23	10
6/26/23	20
Log Mean	1.075257499
STV	18.54461093

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/23	41
8/7/23	10

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	10
2/7/23	10
2/13/23	10
2/21/23	10
2/24/23	183
2/25/23	31
2/26/23	1153
2/27/23	31
Log Mean	1.538375473
STV	322.5278719

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	10
4/17/23	10
4/24/23	10
Log Mean	1
STV	10

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	10
5/8/23	10
5/15/23	10
5/22/23	10
5/30/23	10
Log Mean	1
STV	10

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	20
7/10/23	10
7/17/23	10
7/24/23	10
7/31/23	10
Log Mean	1.060205999
STV	17.09207828

SEPTEMBER 2023	
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8/14/23	10
8/22/23	10
8/28/23	10
Log Mean	1.122556771
STV	13.26040448

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	10
9/18/23	10
9/25/23	10
Log Mean	1
STV	10

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	189
10/18/23	10
10/23/23	10
10/30/23	41
Log Mean	1.314874277
STV	99.00553503

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10
11/18/23	565
11/19/23	10
11/20/23	10
11/27/23	30
Log Mean	1.371528284
STV	187.2504897

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	231
12/12/23	52
12/18/23	882
12/18/23	1789
12/19/23	231
12/20/23	8664
12/21/23	52
12/26/23	30
12/30/23	301
12/31/23	171
Log Mean	2.31670108
STV	2492.837446

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/24	31
1/2/24	10
1/8/24	41
1/14/24	281
1/15/24	31
1/16/24	10
1/22/24	161
1/23/24	10
1/24/24	10
1/29/24	10
Log Mean	1.425103944
STV	130.3192775

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	706
2/2/24	20
2/4/24	432
2/5/24	1624
2/6/24	122
2/7/24	10
2/12/24	20
2/20/24	5172
2/21/24	379
2/22/24	85
2/26/24	74
Log Mean	2.224931151

<u>STV</u>	2094.726795
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**Note: CSD data has not yet been
reported*

MONITORING STATION: CANDLESTICK POINT - SUNNYDALE (300.1)

NOVEMBER 2018		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	318	20
11/13/18	10	10
11/19/18	10	10
11/26/18	10	10
Log Mean	1.37560678	1.075257499
STV	218.1034643	18.54461093

DECEMBER 2018		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/3/18	355	776
12/4/18	173	73
12/10/18	20	10
12/17/18	554	448
12/18/18	85	41
12/24/18	10	74
12/31/18	10	10
Log Mean	1.823176163	1.840925453
STV	572.134276	603.6119775

JANUARY 2019		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/7/19	285	350
1/8/19	233	457
1/9/19	450	813
1/10/19	613	820
1/11/19	369	201
1/12/19	187	118
1/13/19	216	96
1/14/19	31	52
1/22/19	10	10
1/28/19	10	10
Log Mean	2.092755719	2.110124128
STV	900.9829266	1027.419595

FEBRUARY 2019		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	20	10
2/11/19	41	31
2/13/19	24196	5475
2/14/19	4106	3448
2/15/19	256	148
2/16/19	52	20
2/19/19	31	41
2/25/19	697	305
2/26/19	146	201
2/27/19	309	285
2/28/19	63	20
Log Mean	2.347587822	2.126796309
STV	3731.054383	1926.079305

MARCH 2019		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	318	175
3/5/19	41	31
3/11/19	63	10
3/18/19	158	20
3/25/19	146	108
3/26/19	155	148
3/27/19	1396	743
3/28/19	51	10
Log Mean	2.165043595	1.763763003
STV	632.71555	420.3045989

APRIL 2019		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	10	10
4/8/19	10	10
4/15/19	292	131
4/16/19	145	31
4/22/19	10	10
4/29/19	85	171
4/30/19	309	20
Log Mean	1.720875466	1.448951299
STV	415.5512895	134.6738747

MAY 2019		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	272	63
5/13/19	31	10
5/20/19	30	52
5/28/19	10	155
5/29/19	10	31

JUNE 2019		
Sampling Date	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	121	75
6/10/19	10	10

<u>Log Mean</u>	1.480610371	1.639407457
<u>STV</u>	<u>170.3988451</u>	<u>158.6054711</u>

6/17/19	10	10
6/24/19	20	10
<u>Log Mean</u>	1.345953841	1.218765316
<u>STV</u>	<u>100.3345324</u>	<u>60.21151929</u>

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	41	10
7/8/19	146	657
7/9/19	10	20
7/15/19	10	10
7/22/19	10	20
7/29/19	389	52
<u>Log Mean</u>	1.561181052	1.522604784
<u>STV</u>	<u>277.8027751</u>	<u>253.0079053</u>

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	10	10
8/12/19	10	10
8/19/19	41	10
8/26/19	10	10
<u>Log Mean</u>	1.153195964	1
<u>STV</u>	<u>35.15526827</u>	<u>10</u>

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	52	10
9/9/19	20	10
9/16/19	10	10
9/23/19	41	10
9/30/19	10	10
<u>Log Mean</u>	1.325963439	1
<u>STV</u>	<u>56.85573442</u>	<u>10</u>

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	52	10
10/15/19	20	10
10/21/19	10	10
10/28/19	749	158
10/29/19	20	10
<u>Log Mean</u>	1.638509031	1.239731417
<u>STV</u>	<u>382.443945</u>	<u>84.51910379</u>

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	10	10
11/12/19	31	10
11/18/19	41	10
11/25/19	282	63
<u>Log Mean</u>	1.638598665	1.199835137
<u>STV</u>	<u>257.6155826</u>	<u>51.54807237</u>

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	231	583
12/3/19	41	75
12/9/19	158	31
12/16/19	160	216
12/17/19	31	73
12/23/19	216	613
12/24/19	52	20
12/30/19	41	145
12/31/19	2909	121
<u>Log Mean</u>	2.110835475	2.073612441
<u>STV</u>	<u>786.0123214</u>	<u>534.4626902</u>

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/1/20	10	85
1/6/20	10	571
1/7/20	63	203
1/8/20	10	10
1/13/20	20	10
1/21/20	63	52
1/27/20	10	10
<u>Log Mean</u>	1.271387299	1.672793488
<u>STV</u>	<u>56.85279246</u>	<u>380.0087774</u>

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	10	10
2/10/20	10	10
2/18/20	10	52
2/24/20	31	10
<u>Log Mean</u>	1.122840423	1.179000836
<u>STV</u>	<u>27.40332549</u>	<u>43.44691849</u>

MARCH 2020		
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<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	20	10
3/9/20	121	97
3/16/20	41	85
3/23/20	41	41
3/30/20	51	41
<i>Log Mean</i>	1.663390651	1.628351675
STV	105.3742584	135.1443673

APRIL 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/6/20	10	10
4/13/20	10	10
4/20/20	10	10
4/27/20	10	31
<i>Log Mean</i>	1	1.122840423
STV	10	27.40332549

MAY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/4/20	20	10
5/11/20	253	52
5/18/20	52	10
5/26/20	10	10
<i>Log Mean</i>	1.605038465	1.179000836
STV	242.1333779	43.44691849

JUNE 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/1/20	132	10
6/8/20	52	10
6/15/20	41	20
6/22/20	10	10
6/29/20	52	10
<i>Log Mean</i>	1.633072895	1.060205999
STV	141.5461938	17.09207828

JULY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/6/20	166	10
7/13/20	20	10
7/20/20	63	10
7/27/20	10	98
<i>Log Mean</i>	1.580119658	1.247806519
STV	186.7754274	76.41567143

AUGUST 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/3/20	122	10
8/10/20	62	10
8/17/20	145	10
8/24/20	52	10
8/31/20	30	10
<i>Log Mean</i>	1.846648824	1
STV	160.4377797	10

SEPTEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/8/20	173	74
9/14/20	121	10
9/21/20	63	10
9/28/20	85	10
<i>Log Mean</i>	2.012397737	1.21730793
STV	180.2227049	59.49568406

OCTOBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/5/20	41	41
10/13/20	545	52
10/14/20	120	10
10/19/20	97	10
10/26/20	109	10
<i>Log Mean</i>	2.090511967	1.3321968
STV	408.2323724	67.12971727

NOVEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/2/20	110	20
11/3/20	52	10
11/9/20	324	41
11/10/20	288	62

DECEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)

11/11/20	10	10
11/16/20	97	10
11/23/20	52	144
11/24/20	10	10
11/30/20	10	20
Log Mean	1.714456512	1.358071004
STV	306.5252335	78.85902153

12/7/20	131	10
12/14/20	63	96
12/21/20	10	10
12/28/20	10	10
Log Mean	1.479152961	1.245567808
STV	161.3287945	75.02459655

JANUARY 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
1/4/21	146	323
1/5/21	10	10
1/11/21	10	10
1/19/21	10	10
1/25/21	10	10
Log Mean	1.232870571	1.301840504
STV	79.51086289	146.9292666

FEBRUARY 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
2/1/21	41	414
2/2/21	75	288
2/3/21	10	10
2/8/21	20	30
2/16/21	10	10
2/22/21	10	10
Log Mean	1.298145853	1.592252347
STV	59.88463601	365.6978537

MARCH 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
3/1/21	10	10
3/8/21	10	10
3/15/21	10	10
3/22/21	10	10
3/30/21	20	10
Log Mean	1.060205999	1
STV	17.09207828	10

APRIL 2021	
Sampling Date	Enterococci (MPN/100mL)
4/5/21	10
4/12/21	10
4/19/21	10
4/26/21	10
Log Mean	1
STV	10

MAY 2021	
Sampling Date	Enterococci (MPN/100mL)
5/3/21	20
5/10/21	10
5/17/21	10
5/24/21	10
Log Mean	1.075257499
STV	18.54461093

JUNE 2021	
Sampling Date	Enterococci (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	31
6/21/21	10
6/28/21	10
Log Mean	1.098272339
STV	23.98742734

JULY 2021	
Sampling Date	Enterococci (MPN/100mL)
7/6/21	388
7/7/21	10
7/12/21	10
7/19/21	10
7/26/21	10
Log Mean	1.317766345
STV	169.3120194

AUGUST 2021	
Sampling Date	Enterococci (MPN/100mL)
8/2/21	10
8/9/21	10
8/16/21	10
8/23/21	10
8/30/21	10
Log Mean	1
STV	10

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10
9/13/21	10
9/20/21	10
9/27/21	10
Log Mean	1
STV	10

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/4/21	31
10/12/21	10
10/18/21	10
10/24/21	24196
10/25/21	845
10/26/21	355
10/27/21	231
10/28/21	156
10/29/21	41
Log Mean	2.169078974
STV	3477.339937

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	1178
11/2/21	31
11/8/21	98
11/15/21	10
11/22/21	10
11/29/21	41
Log Mean	1.694419486
STV	486.1355088

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	63
12/13/21	1259
12/14/21	10
12/20/21	109
12/21/21	63
12/27/21	52
Log Mean	1.908689445
STV	605.9659733

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	201
1/4/22	473
1/5/22	20
1/10/22	144
1/11/22	10
1/18/22	52
1/24/22	52
1/31/22	52
Log Mean	1.823182465
STV	329.1813415

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/7/22	10
2/14/22	41
2/22/22	20
2/28/22	20
Log Mean	1.303710962
STV	42.1163614

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	187
3/29/22	31
Log Mean	1.35264066
STV	116.3143487

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	20
4/11/22	41
4/18/22	10
4/25/22	10
Log Mean	1.228453463
STV	40.17375886

MAY 2022	
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JUNE 2022	
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<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	10
5/9/22	20
5/16/22	10
5/23/22	10
5/31/22	10
Log Mean	1.060205999
STV	17.09207828

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	10
Log Mean	1
STV	10

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	10
6/11/22	10
6/18/22	10
6/25/22	31
Log Mean	1.122840423
STV	27.40332549

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	10
8/8/22	98
8/15/22	10
8/22/22	31
8/29/22	10
Log Mean	1.296517554
STV	73.14937174

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	31
9/12/22	20
9/19/22	63
9/20/22	10
9/26/22	10
Log Mean	1.318346448
STV	56.89981788

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	10
Log Mean	1
STV	10

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	315
11/8/22	703
11/9/22	31
11/14/22	20
11/21/22	10
11/28/22	142
11/29/22	10
Log Mean	1.755706559
STV	511.804049

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/5/22	144
12/6/22	109
12/7/22	10
12/12/22	20
12/19/22	52
12/27/22	1250
12/28/22	187
12/29/22	144
12/30/22	97
12/31/22	7270
Log Mean	2.158824259
STV	1641.424206

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/23	173
1/2/23	98
1/3/23	168
1/4/23	9208

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	10

1/5/23	1050
1/6/23	504
1/7/23	75
1/9/23	2909
1/10/23	173
1/11/23	95
1/17/23	85
1/23/23	10
1/30/23	51
Log Mean	2.333379262
STV	2175.538277

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	10
4/17/23	31
4/24/23	10
Log Mean	1.122840423
STV	27.40332549

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	52
6/12/23	52
6/20/23	10
6/26/23	31
Log Mean	1.480842095
STV	81.96819586

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/23	10
8/7/23	10
8/14/23	20
8/22/23	10
8/28/23	10
Log Mean	1.060205999
STV	17.9129134

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10

2/13/23	10
2/21/23	10
2/27/23	455
2/28/23	565
Log Mean	1.682011969
STV	758.593101

MARCH 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/1/23	31
3/6/23	31
3/13/23	75
3/20/23	134
3/21/23	52
3/27/23	31
Log Mean	1.698709081
STV	108.374245

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	41
5/8/23	98
5/15/23	30
5/22/23	10
5/30/23	10
Log Mean	1.416226237
STV	91.18584749

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	10
7/10/23	20
7/17/23	10
7/24/23	52
7/31/23	1054
Log Mean	1.60797479
STV	489.2570844

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	20
9/11/23	10
9/18/23	10
9/25/23	20
Log Mean	1.150514998

10/23/23	20
10/30/23	30
Log Mean	1.15563025
STV	27.55824042

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	41
12/18/23	4352
12/19/23	613
12/20/23	1198
12/21/23	6867
12/22/23	30
12/26/23	10
Log Mean	2.303909792
STV	6302.111976

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/5/24	345
2/6/24	85
2/12/24	10
2/20/24	1259
2/21/24	41
2/26/24	10
Log Mean	1.863341268
STV	875.7532702

*Note: CSD data has not yet been reported

STV	23.62252276
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NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10
11/20/23	52
11/27/23	10
Log Mean	1.179000836
STV	43.44691849

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	216
1/3/24	63
1/8/24	10
1/16/24	435
1/17/24	487
1/18/24	31
1/22/24	379
1/23/24	31
1/29/24	40
Log Mean	1.958137234
STV	558.1685872

MONITORING STATION: CANDLESTICK POINT WINDSURFER (301.1)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	41	84
11/13/18	10	31
11/19/18	10	20
11/26/18	108	75
<i>Log Mean</i>	1.411551903	1.64793306
STV	114.6410031	108.275396

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/3/18	145	20
12/10/18	20	20
12/17/18	4106	2489
12/18/18	132	41
12/24/18	134	173
12/25/18	63	85
12/31/18	31	10
<i>Log Mean</i>	2.087742559	1.825476253
STV	1126.870551	728.254178

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/7/19	160	285
1/8/19	565	1725
1/9/19	279	161
1/10/19	145	75
1/14/19	189	171
1/15/19	1259	266
1/16/19	1043	728
1/17/19	246	203
1/18/19	63	246
1/19/19	10	10
1/22/19	146	63
1/28/19	10	10
<i>Log Mean</i>	2.192711749	2.14927516
STV	1124.442362	989.785167

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	10	52
2/11/19	10	10
2/13/19	327	292
2/14/19	4611	1374
2/15/19	464	75
2/16/19	31	31
2/19/19	20	41
2/25/19	173	85
<i>Log Mean</i>	1.984412331	1.903499833
STV	1579.851596	543.6483652

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	383	52
3/11/19	364	10
3/18/19	24196	984
3/19/19	97	63
3/25/19	233	2909
3/26/19	20	85
<i>Log Mean</i>	2.530533564	2.150250273
STV	7029.945755	2059.881532

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	122	63
4/8/19	10	10
4/15/19	1334	52
4/16/19	867	10
4/17/19	10	10
4/22/19	10	10
4/29/19	10	10
<i>Log Mean</i>	1.735647823	1.216477699
STV	957.745181	49.14091691

MAY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	31	10
5/13/19	52	10
5/19/19	161	146
5/20/19	20	20
5/28/19	10	10
<i>Log Mean</i>	1.543044182	1.29307657
STV	133.612403	86.98811472

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	10	10
6/17/19	10	10
6/24/19	52	10
<i>Log Mean</i>	1.179000836	1
STV	43.44691849	10

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	86
7/8/19	10	10
7/15/19	10	10
7/22/19	10	10
7/29/19	52	10
<i>Log Mean</i>	1.143200669	1.18689969
STV	35.78535349	52.80483123

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	10	10
9/9/19	10	10
9/16/19	10	10
9/23/19	41	41
9/30/19	30	10
<i>Log Mean</i>	1.217981022	1.122556771
STV	40.32226986	29.77712814

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	51	10
11/12/19	249	10
11/18/19	10	10
11/25/19	359	241
11/26/19	10	10
<i>Log Mean</i>	1.731772794	1.345504261
STV	479.2463976	170.3637476

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	10	84
1/13/20	10	10
1/21/20	52	20
1/27/20	10	10
<i>Log Mean</i>	1.179000836	1.30632732
STV	43.44691849	73.2698264

MARCH 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	10	10
8/12/19	10	10
8/19/19	10	10
8/26/19	10	10
<i>Log Mean</i>	1	1
STV	10	10

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	75	10
10/15/19	10	10
10/16/19	10	10
10/21/19	10	10
10/28/19	350	12997
10/29/19	1022	31
10/30/19	789	705
10/31/19	272	75
<i>Log Mean</i>	1.903593399	1.791056899
STV	987.8290185	1793.871129

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	97	106
12/3/19	10	10
12/9/19	52	10
12/16/19	63	41
12/23/19	97	173
12/24/19	20	52
12/30/19	85	98
<i>Log Mean</i>	1.674190898	1.654766463
STV	145.4963626	193.1033156

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	121	10
2/10/20	10	10
2/18/20	10	51
2/24/20	10	20
<i>Log Mean</i>	1.270696343	1.252150043
STV	92.20654834	48.06171383

3/2/20	10	10
3/9/20	185	546
3/10/20	10	213
3/11/20	10	10
3/16/20	86	52
3/23/20	10	20
3/30/20	20	10
Log Mean	1.357528596	1.583229369
STV	108.3571068	309.3408361

MAY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
5/4/20	1670	10
5/5/20	714	41
5/6/20	414	10
5/7/20	10	20
5/11/20	211	10
5/18/20	305	10
5/19/20	119	10
5/26/20	75	10
Log Mean	2.306575693	1.114226732
STV	1496.963202	25.4483258

JULY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
7/6/20	2700	30
7/7/20	266	10
7/13/20	121	10
7/20/20	119	10
7/27/20	145	10
Log Mean	2.435189147	1.095424251
STV	1485.645338	23.38681845

SEPTEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
9/8/20	75	10
9/14/20	216	75
9/15/20	85	10
9/21/20	181	10
9/22/20	201	97
9/28/20	17329	30
9/29/20	282	10
Log Mean	2.48411874	1.389825709
STV	3258.767305	95.23482346

NOVEMBER 2020		
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APRIL 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
4/6/20	52	134
4/7/20	63	108
4/8/20	10	10
4/13/20	31	20
4/14/20	20	10
4/15/20	20	31
4/20/20	10	10
4/27/20	85	10
Log Mean	1.442273063	1.36911503
STV	78.53742899	95.11873614

JUNE 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
6/1/20	41	10
6/8/20	131	20
6/15/20	738	10
6/16/20	20	10
6/22/20	173	10
6/29/20	41	10
Log Mean	1.958328578	1.050171666
STV	483.0363066	16.13329339

AUGUST 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
8/3/20	259	10
8/4/20	812	10
8/5/20	161	52
8/10/20	31	10
8/17/20	2359	521
8/18/20	683	187
8/19/20	31	20
8/24/20	144	20
8/31/20	20	10
Log Mean	2.242105132	1.478526963
STV	1454.378556	194.5793064

OCTOBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
10/5/20	20	10
10/13/20	1935	10
10/14/20	573	10
10/15/20	31	10
10/19/20	30	10
10/26/20	345	41

<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/2/20	30	10
11/9/20	63	10
11/16/20	171	1019
11/17/20	256	480
11/18/20	292	535
11/19/20	121	122
11/20/20	41	52
11/23/20	52	213
11/24/20	52	20
11/30/20	10	10
<i>Log Mean</i>	1.851065665	1.884954198
STV	270.3370428	781.4064783

10/27/20	155	10
<i>Log Mean</i>	2.148928476	1.087540551
STV	1309.159157	24.23624015

DECEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/7/20	10	10
12/14/20	75	63
12/21/20	20	10
12/28/20	132	1274
12/29/20	10	10
<i>Log Mean</i>	1.459333038	1.580901995
STV	131.3350029	575.3963319

JANUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/4/21	512	1017
1/5/21	20	20
1/11/21	1187	3654
1/12/21	218	388
1/13/21	30	20
1/19/21	10	20
1/25/21	20	256
1/26/21	158	246
1/27/21	281	583
1/28/21	216	231
1/29/21	30	193
1/30/21	63	41
<i>Log Mean</i>	1.954969782	2.240733998
STV	616.3100979	1496.618517

FEBRUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/21	10	75
2/8/21	199	63
2/16/21	20	10
2/22/21	10	63
<i>Log Mean</i>	1.399970768	1.618435591
STV	154.6899512	140.9188592

MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/21	776	3448
3/2/21	10	20
3/8/21	10	481
3/9/21	209	187
3/10/21	158	1054
3/11/21	10	30
3/15/21	10	20
3/22/21	10	10
3/31/21	10	10
<i>Log Mean</i>	1.489851677	1.954841755
STV	289.1232798	1477.431596

APRIL 2021		
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)	
4/5/21	216	
4/6/21	109	
4/7/21	86	
4/12/21	20	
4/19/21	63	
4/26/21	97	
<i>Log Mean</i>	1.898920163	
STV	217.5323307	

JUNE 2021		
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)	
6/1/21	135	
6/2/21	52	

MAY 2021		
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)	
5/3/21	30	
5/10/21	20	
5/17/21	557	
5/18/21	10	
5/24/21	10	
<i>Log Mean</i>	1.504801289	

6/7/21	10
6/14/21	10
6/21/21	52
6/28/21	691
6/29/21	10
Log Mean	1.628831215
STV	333.4015141

AUGUST 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/2/21	31
8/9/21	52
8/16/21	20
8/23/21	20
8/30/21	52
Log Mean	1.505085674
STV	59.05618165

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/4/21	20
10/12/21	52
10/18/21	10
10/24/21	19863
10/25/21	4611
10/26/21	537
10/27/21	934
10/28/21	565
10/29/21	512
10/30/21	2909
10/31/21	242
Log Mean	2.635279269
STV	8280.336923

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/6/21	73
12/19/21	243
12/20/21	315
12/21/21	10
Log Mean	1.936809922
STV	649.3715889

FEBRUARY 2022	
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STV	270.371738
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JULY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/6/21	30
7/12/21	10
7/19/21	10
7/26/21	20
Log Mean	1.194537813
STV	31.39821636

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/7/21	10
9/13/21	52
9/20/21	63
9/27/21	10
Log Mean	1.378835973
STV	87.36356352

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/1/21	1169
11/2/21	31
11/8/21	96
11/15/21	171
11/16/21	6488
11/17/21	4611
11/18/21	160
11/19/21	860
11/20/21	631
11/21/21	31
11/22/21	41
11/29/21	20
Log Mean	2.382847738
STV	3087.76753

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/22	5794
1/4/22	195
1/5/22	30
1/10/22	10
1/18/22	10

<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/22	10
2/7/22	10
2/14/22	173
2/15/22	10
2/22/22	10
2/28/22	10
<i>Log Mean</i>	1.206341017
STV	71.49942351

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/4/22	10
4/11/22	10
4/18/22	441
4/19/22	10
4/25/22	10
<i>Log Mean</i>	1.328887718
STV	186.9347859

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	10
<i>Log Mean</i>	1
STV	10

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/1/22	20
8/8/22	10
8/15/22	10
8/22/22	10
8/29/22	20
<i>Log Mean</i>	1.120411998
STV	21.46788878

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/3/22	41
10/11/22	10

1/25/22	20
1/31/22	122
<i>Log Mean</i>	1.845360598
STV	1274.050699

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	31
<i>Log Mean</i>	1.122840423
STV	27.40332549

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/2/22	10
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
<i>Log Mean</i>	1
STV	10

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/22	41
6/11/22	10
6/18/22	10
6/25/22	10
<i>Log Mean</i>	1.153195964
STV	35.15526827

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/6/22	10
9/12/22	10
9/19/22	20
9/26/22	10
<i>Log Mean</i>	1.075257499
STV	18.54461093

10/17/22	10
10/24/22	10
10/31/22	10
Log Mean	1.122556771
STV	29.77712814

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/5/22	1354
12/6/22	295
12/7/22	20
12/12/22	95
12/19/22	10
12/27/22	697
12/28/22	110
12/29/22	259
12/30/22	187
12/31/22	41
Log Mean	2.106274497
STV	910.5777346

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	10
2/13/23	10
2/21/23	10
2/27/23	455
2/28/23	464
Log Mean	1.664905875
STV	679.3941335

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	10
4/17/23	41
4/24/23	10
Log Mean	1.153195964
STV	35.15526827

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	41

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/7/22	41
11/14/22	10
11/21/22	63
11/28/22	52
Log Mean	1.532031937
STV	99.34487956

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/3/23	152
1/4/23	565
1/5/23	4611
1/6/23	201
1/7/23	132
1/8/23	201
1/9/23	521
1/10/23	74
1/17/23	41
1/23/23	10
1/30/23	10
Log Mean	2.138500591
STV	1362.815533

MARCH 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/1/23	41
3/6/23	10
3/13/23	20
3/20/23	10
3/27/23	20
Log Mean	1.24296877
STV	37.22229765

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	20
5/8/23	20
5/15/23	10
5/22/23	10
5/30/23	10
Log Mean	1.120411998
STV	21.46788878

6/20/23	10
6/26/23	10
Log Mean	1.153195964
STV	35.15526827

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	10
8/14/23	10
8/22/23	10
8/28/23	10
Log Mean	1
STV	10

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10
10/23/23	10
10/30/23	31
Log Mean	1.098272339
STV	23.98742734

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	96
12/18/23	63
12/26/23	10
Log Mean	1.445402946
STV	129.3181398

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/5/24	185
2/6/24	31
2/12/24	10
2/20/24	110
2/21/24	73
2/26/24	120
2/27/24	10
Log Mean	1.677490031
STV	221.5218944

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	10
7/10/23	10
7/17/23	10
7/24/23	20
7/31/23	10
Log Mean	1.060205999
STV	17.09207828

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	10
9/18/23	10
9/25/23	20
9/26/23	10
Log Mean	1.060205999
STV	17.9129134

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	369
11/7/23	10
11/13/23	10
11/20/23	10
11/27/23	10
Log Mean	1.313405273
STV	162.8640005

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	41
1/8/24	132
1/9/24	85
1/16/24	10
1/22/24	369
1/23/24	10
1/29/24	10
Log Mean	1.604257583
STV	259.5184385

MONITORING STATION: CANDLESTICK POINT JACK RABBIT (301.2)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	10	10
11/13/18	10	10
11/19/18	10	10
11/26/18	211	31
11/29/18	201	717
11/30/18	63	41
<i>Log Mean</i>	1.57113651	1.493277451
STV	256.2291428	261.6573556

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/3/18	583	884
12/4/18	86	31
12/10/18	10	10
12/17/18	110	134
12/18/18	31	30
12/24/18	41	41
12/31/18	10	10
<i>Log Mean</i>	1.692243606	1.664974838
STV	310.8090152	348.3713495

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/7/19	63	75
1/14/19	10	10
1/17/19	31	10
1/22/19	10	10
1/28/19	20	10
<i>Log Mean</i>	1.318346448	1.175012253
STV	56.89981788	47.50170819

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	74	784
2/5/19	10	10
2/11/19	10	20
2/13/19	75	279
2/14/19	332	74
2/19/19	20	10
2/25/19	20	52
<i>Log Mean</i>	1.552498723	1.746597904
STV	186.2255361	471.3123909

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/4/19	41	20
3/11/19	10	10
3/18/19	110	457
3/19/19	63	10
3/25/19	10	10
<i>Log Mean</i>	1.490703418	1.392189239
STV	125.059732	206.9944606

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	10	10
4/8/19	20	10
4/15/19	10	10
4/22/19	10	10
4/29/19	20	226
4/30/19	10	10
<i>Log Mean</i>	1.100343332	1.22568474
STV	19.93571414	85.97858782

MAY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	10	10
5/13/19	10	10
5/20/19	20	10
5/28/19	20	10
<i>Log Mean</i>	1.150514998	1
STV	23.62252276	10

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	1236	246
6/11/19	20	10
6/17/19	20	10
6/24/19	24196	24196
6/25/19	10	10

JULY 2019		
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<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	10
7/8/19	10	10
7/15/19	10	10
7/22/19	10	10
7/29/19	20	61
<i>Log Mean</i>	1.060205999	1.157065967
STV	17.09207828	40.48716958

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	20	10
9/9/19	10	10
9/16/19	10	10
9/23/19	98	10
9/30/19	31	10
<i>Log Mean</i>	1.356723553	1
STV	76.67515916	10

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	10	10
11/12/19	41	31
11/18/19	10	10
11/25/19	10	10
<i>Log Mean</i>	1.153195964	1.122840423
STV	35.15526827	27.40332549

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/20	10	10
1/13/20	10	10
1/21/20	10	31
1/27/20	86	10
<i>Log Mean</i>	1.233624613	1.122840423
STV	68.02023375	27.40332549

MARCH 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/2/20	10	10
3/9/20	10	295
3/10/20	10	85

<i>Log Mean</i>	2.01297034	1.79577978
STV	6492.626281	3721.91836

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	85	10
8/12/19	10	10
8/19/19	10	20
8/26/19	2359	98
8/27/19	10	10
<i>Log Mean</i>	1.660429373	1.258451214
STV	980.8794597	64.49831168

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	10	10
10/15/19	10	10
10/21/19	10	10
10/28/19	41	10
<i>Log Mean</i>	1.153195964	1
STV	35.15526827	10

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/2/19	213	602
12/3/19	20	41
12/9/19	52	52
12/16/19	10	31
12/23/19	20	74
12/30/19	10	10
<i>Log Mean</i>	1.441073823	1.744829518
STV	123.7529442	314.4177909

FEBRUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/3/20	10	10
2/10/20	10	10
2/18/20	10	10
2/24/20	20	10
<i>Log Mean</i>	1.075257499	1
STV	18.54461093	10

3/16/20	20	292
3/17/20	10	10
3/23/20	10	10
3/30/20	51	10
Log Mean	1.144085739	1.552089113
STV	31.15963118	291.2809869

MAY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
5/4/20	10	10
5/11/20	30	10
5/18/20	10	10
5/26/20	20	10
Log Mean	1.194537813	1
STV	31.39821636	10

JULY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
7/6/20	31	10
7/13/20	20	10
7/20/20	10	10
7/27/20	10	10
Log Mean	1.198097922	1
STV	32.19621662	10

SEPTEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
9/8/20	31	420
9/9/20	20	41
9/14/20	62	10
9/21/20	20	10
9/28/20	481	10
9/29/20	63	10
Log Mean	1.727883167	1.447206629
STV	246.3858714	227.0324843

NOVEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
11/2/20	63	10
11/9/20	52	3076
11/10/20	10	10
11/16/20	20	52
11/23/20	10	10

APRIL 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
4/6/20	10	10
4/13/20	20	10
4/20/20	41	31
4/27/20	10	10
Log Mean	1.228453463	1.122840423
STV	40.17375886	27.40332549

JUNE 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
6/1/20	10	10
6/8/20	10	10
6/9/20	171	10
6/15/20	10	10
6/22/20	10	10
6/29/20	10	10
Log Mean	1.205499352	1
STV	70.9280203	10

AUGUST 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
8/3/20	20	10
8/10/20	10	10
8/17/20	10	448
8/18/20	31	10
8/24/20	10	10
8/31/20	10	10
Log Mean	1.132065282	1.275213002
STV	25.43723448	137.8635606

OCTOBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
10/5/20	20	10
10/13/20	1860	10
10/14/20	52	10
10/19/20	63	52
10/26/20	41	10
Log Mean	1.939734138	1.143200669
STV	837.4872341	35.78535349

11/30/20	85	75
Log Mean	1.457632136	1.679841823
STV	96.83962246	835.9363104

JANUARY 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
1/4/21	74	20
1/11/21	160	52
1/19/21	41	110
1/20/21	10	10
1/25/21	10	10
Log Mean	1.537227112	1.411685205
STV	166.341092	99.83792548

MARCH 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
3/1/21	10	31
3/8/21	10	31
3/15/21	10	10
3/22/21	10	52
3/31/21	10	31
Log Mean	1	1.438017685
STV	10	59.67469137

MAY 2021	
Sampling Date	Enterococci (MPN/100mL)
5/3/21	10
5/4/21	10
5/10/21	10
5/17/21	10
5/24/21	10
Log Mean	1
STV	10

JULY 2021	
Sampling Date	Enterococci (MPN/100mL)
7/6/21	10
7/12/21	10
7/19/21	10
7/26/21	20
Log Mean	1.075257499
STV	18.54461093

DECEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
12/1/20	10	10
12/7/20	10	10
12/14/20	10	10
12/21/20	10	464
12/22/20	10	31
12/23/20	10	74
12/28/20	10	41
Log Mean	1	1.519985036
STV	10	202.4339509

FEBRUARY 2021		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
2/1/21	20	30
2/8/21	10	31
2/16/21	10	10
2/22/21	10	10
Log Mean	1.075257499	1.242120737
STV	18.54461093	39.86721186

APRIL 2021	
Sampling Date	Enterococci (MPN/100mL)
4/5/21	10
4/12/21	10
4/19/21	10
4/26/21	10
Log Mean	1
STV	10

JUNE 2021	
Sampling Date	Enterococci (MPN/100mL)
6/1/21	10
6/7/21	10
6/14/21	10
6/21/21	10
6/28/21	10
Log Mean	1
STV	10

AUGUST 2021	
Sampling Date	Enterococci (MPN/100mL)

SEPTEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
9/7/21	10
9/13/21	10
9/20/21	30
9/27/21	10
Log Mean	1.119280314
STV	26.61429938

NOVEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
11/1/21	231
11/2/21	63
11/8/21	63
11/15/21	20
11/22/21	10
11/29/21	281
11/30/21	20
Log Mean	1.716151341
STV	265.2274796

JANUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
1/3/22	1246
1/4/22	10
1/10/22	1039
1/11/22	10
1/18/22	10
1/25/22	10
1/31/22	148
Log Mean	1.754627901
STV	1046.042689

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	529
3/29/22	10
Log Mean	1.344691134
STV	215.1771911

8/2/21	10
8/9/21	10
8/16/21	10
8/23/21	10
8/30/21	10
Log Mean	1
STV	10

OCTOBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
10/4/21	213
10/5/21	10
10/12/21	10
10/18/21	10
10/24/21	794
10/25/21	199
10/26/21	292
10/27/21	10
Log Mean	1.749054504
STV	633.4679553

DECEMBER 2021	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
12/6/21	41
12/19/21	109
12/20/21	309
12/21/21	10
Log Mean	1.785042209
STV	396.3386416

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
2/1/22	10
2/7/22	73
2/14/22	10
2/22/22	373
2/23/22	10
2/28/22	31
Log Mean	1.487732231
STV	201.625436

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
4/4/22	10

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
5/2/22	41
5/9/22	10
5/16/22	10
5/23/22	10
5/31/22	10
<i>Log Mean</i>	1.122556771
<u>STV</u>	<u>29.77712814</u>

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
6/5/22	10
6/11/22	10
6/18/22	10
6/25/22	10
<i>Log Mean</i>	1
<u>STV</u>	<u>10</u>

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
9/6/22	10
9/12/22	10
9/19/22	10
9/26/22	10
<i>Log Mean</i>	1
<u>STV</u>	<u>10</u>

NOVEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
11/7/22	10
11/14/22	10
11/21/22	10
11/28/22	142
11/29/22	10
<i>Log Mean</i>	1.230457669
<u>STV</u>	<u>77.8209708</u>

JANUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
1/3/23	52

4/11/22	10
4/18/22	30
4/25/22	10
<i>Log Mean</i>	1.119280314
<u>STV</u>	<u>26.61429938</u>

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
6/6/22	10
6/7/22	10
6/14/22	10
6/21/22	10
6/27/22	10
<i>Log Mean</i>	1
<u>STV</u>	<u>10</u>

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
8/1/22	20
8/8/22	10
8/15/22	30
8/22/22	30
8/29/22	10
<i>Log Mean</i>	1.251054501
<u>STV</u>	<u>36.22256539</u>

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10
10/31/22	84
<i>Log Mean</i>	1.184855857
<u>STV</u>	<u>51.85264255</u>

DECEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
12/5/22	107
12/6/22	10
12/12/22	10
12/19/22	20

1/9/23	110
1/10/23	10
1/17/23	20
1/23/23	20
1/30/23	30
Log Mean	1.472762879
STV	87.1570365

MARCH 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
3/1/23	10
3/6/23	42
3/13/23	10
3/20/23	41
3/27/23	20
Log Mean	1.307412629
STV	50.53776786

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	20
5/8/23	41
5/15/23	10
5/22/23	10
5/30/23	30
Log Mean	1.278187021
STV	42.97837002

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	10
7/10/23	10
7/17/23	10
7/24/23	10
7/31/23	10
Log Mean	1
STV	10

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	10
9/18/23	10

12/27/22	41
Log Mean	1.388639526
STV	89.39553663

FEBRUARY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/6/23	410
2/7/23	51
2/13/23	10
2/21/23	10
2/27/23	959
2/28/23	771
Log Mean	2.031537836
STV	1611.881436

APRIL 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/3/23	10
4/10/23	20
4/17/23	10
4/24/23	10
Log Mean	1.075257499
STV	18.54461093

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	20
6/12/23	41
6/20/23	10
6/21/23	10
6/26/23	20
Log Mean	1.24296877
STV	37.22229765

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	10
8/14/23	10
8/22/23	10
8/28/23	10
8/29/23	10
Log Mean	1
STV	10

9/25/23	10
Log Mean	1
STV	10

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	41
11/13/23	10
11/20/23	10
11/27/23	20
Log Mean	1.228453463
STV	40.17375886

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/2/24	51
1/8/24	10
1/16/24	31
1/22/24	1455
1/23/24	10
1/29/24	218
1/30/24	10
Log Mean	1.67146448
STV	531.43185

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	10
10/17/23	10
10/23/23	10
10/30/23	10
Log Mean	1
STV	10

DECEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	235
12/12/23	10
12/18/23	52
12/26/23	41
Log Mean	1.539971013
STV	381.2574001

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	327
2/2/24	10
2/5/24	98
2/12/24	10
2/20/24	132
2/22/24	10
2/26/24	10
Log Mean	1.51804968
STV	234.743949

*Note: CSD data has not yet been reported

MONITORING STATION: ISLAIS CREEK - ISLAIS LANDING (320)

NOVEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/5/18	10	10
11/13/18	20	10
11/19/18	97	10
11/21/18	24196	24196
11/22/18	24196	24196
11/23/18	14136	3448
11/24/18	2142	31
11/25/18	479	41
11/26/18	480	108
11/27/18	187	10
11/29/18	24196	8164
11/30/18	4884	578
<i>Log Mean</i>	3.020197706	2.343037879
STV	38059.98759	12965.18005

DECEMBER 2018		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/1/18	414	98
12/2/18	223	75
12/3/18	75	30
12/10/18	31	20
12/17/18	20	75
12/24/18	10	31
12/31/18	10	10
<i>Log Mean</i>	1.661822594	1.572980221
STV	304.3875308	108.1163194

JANUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/6/19	24196	8164
1/7/19	24196	24196
1/8/19	24196	10462
1/9/19	10462	272
1/10/19	2014	20
1/11/19	86	10
1/14/19	52	10
1/17/19	24196	24196
1/18/19	24196	15531
1/19/19	2481	156
1/20/19	886	171
1/21/19	122	75
1/22/19	86	30
1/28/19	10	10
<i>Log Mean</i>	3.161129473	2.528864744
STV	98372.96887	18719.45161

FEBRUARY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/4/19	74	63
2/5/19	135	10
2/11/19	10	20
2/13/19	24196	24196
2/14/19	24196	12997
2/15/19	24196	3130
2/16/19	1725	185
2/17/19	199	86
2/19/19	435	231
2/20/19	41	10
2/25/19	74	108
2/26/19	173	189
2/27/19	905	272
2/28/19	4611	546
<i>Log Mean</i>	2.761816645	2.367173632
STV	18019.99088	5009.198756

APRIL 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
4/1/19	602	97
4/2/19	74	41
4/8/19	31	10
4/15/19	108	20
4/22/19	10	31
4/29/19	10	10
<i>Log Mean</i>	1.695602277	1.39865788
STV	371.9761185	77.22185116

MARCH 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/19	109	41
3/4/19	110	20
1/6/00	24196	24196
3/7/19	24196	9208
3/8/19	987	52
3/9/19	145	20
3/11/19	384	52
3/18/19	41	10
3/25/19	292	31
<i>Log Mean</i>	2.740498825	2.054013457
STV	10836.13935	4247.387438

MAY 2019

JUNE 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
6/3/19	10	10
6/10/19	52	10
6/17/19	10	10
6/24/19	10	10
<i>Log Mean</i>	1.179000836	1
STV	43.44691849	10

<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
5/6/19	20	10
5/13/19	548	10
5/14/19	10	10
5/20/19	20	10
5/28/19	31	10
<i>Log Mean</i>	1.566440449	1
STV	273.1181167	10

JULY 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
7/1/19	10	10
7/8/19	10	10
7/15/19	10	52
7/22/19	10	10
7/29/19	10	10
<i>Log Mean</i>	1	1.143200669
STV	10	35.78535349

AUGUST 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
8/5/19	30	41
8/12/19	10	10
8/19/19	121	10
8/26/19	10	10
<i>Log Mean</i>	1.389976656	1.153195964
STV	111.8337151	35.15526827

SEPTEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
9/3/19	10	10
9/9/19	161	10
9/16/19	52	10
9/23/19	10	10
9/30/19	10	31
<i>Log Mean</i>	1.384565844	1.098272339
STV	124.5557435	23.98742734

OCTOBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/7/19	10	10
10/15/19	20	10
10/21/19	10	10
10/28/19	52	10
<i>Log Mean</i>	1.254258335	1
STV	48.84394426	10

NOVEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/4/19	10	10
11/12/19	41	10
11/18/19	20	10
11/25/19	84	20
11/27/19	24196	24196
11/28/19	19863	3654
11/29/19	14136	798
11/30/19	173	120
<i>Log Mean</i>	2.613531775	2.153590781
STV	27821.50994	7065.055121

DECEMBER 2019		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/1/19	135	109
12/2/19	134	98
12/8/19	24196	24196
12/9/19	8164	638
12/10/19	4611	109
12/11/19	529	145
12/12/19	393	97
12/16/19	218	52
12/23/19	364	226
12/24/19	63	85
12/30/19	52	84
<i>Log Mean</i>	2.722693659	2.302417551
STV	7185.135032	1816.304179

JANUARY 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)

FEBRUARY 2020		
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1/6/20	85	52
1/13/20	10	10
1/16/20	24196	24196
1/17/20	24196	10462
1/18/20	19863	3609
1/19/20	6131	228
1/20/20	148	41
1/21/20	75	199
1/22/20	31	10
1/27/20	31	10
Log Mean	2.68105286	2.358924106
STV	26977.61466	11983.30615

APRIL 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
4/6/20	984	496
4/7/20	75	20
4/8/20	10	10
4/13/20	20	10
4/20/20	20	10
4/27/20	10	10
Log Mean	1.578352726	1.332751945
STV	360.3470119	159.3760953

JUNE 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
6/1/20	20	10
6/8/20	20	10
6/15/20	10	10
6/22/20	96	30
6/29/20	52	10
Log Mean	1.460066914	1.095424251
STV	90.52502432	23.38681845

AUGUST 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
8/3/20	203	10
8/10/20	10	10
8/17/20	110	399
8/18/20	20	10
8/24/20	20	10
8/31/20	31	10
Log Mean	1.573718401	1.266828816
STV	163.1597507	127.2731808

Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
2/3/20	52	20
2/10/20	10	10
2/18/20	62	10
2/24/20	74	10
2/25/20	223	10
Log Mean	1.745186323	1.060205999
STV	232.187667	17.09207828

MARCH 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
3/2/20	97	110
3/3/20	20	10
3/9/20	10	10
3/16/20	122	193
3/17/20	10	10
3/23/20	30	63
3/30/20	10	10
Log Mean	1.407326116	1.446612935
STV	101.5146352	152.4192427

MAY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
5/4/20	10	10
5/11/20	30	10
5/18/20	31	10
5/26/20	20	10
Log Mean	1.317378236	1
STV	40.78055777	10

JULY 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
7/6/20	10	10
7/13/20	10	10
7/20/20	20	10
7/27/20	10	10
Log Mean	1.075257499	1
STV	18.54461093	10

SEPTEMBER 2020		
Sampling Date	E. Coli (MPN/100mL)	Enterococci (MPN/100mL)
9/8/20	10	10
9/14/20	41	10
9/21/20	10	10

OCTOBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
10/5/20	10	10
10/13/20	75	10
10/19/20	31	10
10/26/20	31	20
<i>Log Mean</i>	1.464446163	1.075257499
STV	83.97705571	18.54461093

DECEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
12/7/20	10	10
12/14/20	145	145
12/15/20	52	31
12/21/20	10	20
12/28/20	20	10
<i>Log Mean</i>	1.435680268	1.390751938
STV	119.5724501	101.0896481

FEBRUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
2/1/21	20	20
2/8/21	10	10
2/16/21	145	73
2/22/21	10	10
<i>Log Mean</i>	1.365599499	1.291088214
STV	117.3890323	64.99776897

MARCH 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
3/1/21	10	10
3/8/21	10	10
3/15/21	95	146
3/16/21	10	10
3/22/21	10	10
3/31/21	10	10
<i>Log Mean</i>	1.162953934	1.194058809
STV	47.27911624	63.59913075

MAY 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/3/21	10
5/10/21	10
5/17/21	20

9/28/20	160	10
<i>Log Mean</i>	1.45422596	1
STV	156.4713861	10

NOVEMBER 2020		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
11/2/20	31	10
11/9/20	10	10
11/16/20	10	10
11/23/20	201	63
11/30/20	10	10
<i>Log Mean</i>	1.35891155	1.15986811
STV	122.615532	41.50995782

JANUARY 2021		
<u>Sampling Date</u>	<u>E. Coli</u> (MPN/100mL)	<u>Enterococci</u> (MPN/100mL)
1/4/21	20	52
1/11/21	31	31
1/19/21	10	10
1/20/21	10	10
1/21/21	10	10
1/23/21	10	10
1/25/21	20	20
1/27/21	31	1483
1/28/21	74	350
1/29/21	10	41
1/30/21	148	98
1/31/21	30	30
<i>Log Mean</i>	1.341783172	1.714520697
STV	68.07879267	385.3773536

APRIL 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
4/5/21	10
4/12/21	10
4/19/21	20
4/26/21	20
<i>Log Mean</i>	1.150514998
STV	23.62252276

JUNE 2021	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/1/21	10
6/7/21	20
6/14/21	10

5/24/21	10
Log Mean	1.075257499
STV	18.54461093

6/21/21	73
6/22/21	10
6/28/21	20
Log Mean	1.244230475
STV	47.48751774

JULY 2021	
Sampling Date	Enterococci (MPN/100mL)
7/6/21	10
7/12/21	10
7/19/21	10
7/26/21	10
Log Mean	1
STV	10

AUGUST 2021	
Sampling Date	Enterococci (MPN/100mL)
8/2/21	10
8/5/21	10
8/9/21	10
8/16/21	10
8/23/21	10
8/30/21	10
Log Mean	1
STV	10

SEPTEMBER 2021	
Sampling Date	Enterococci (MPN/100mL)
9/7/21	10
9/13/21	20
9/20/21	63
9/27/21	10
Log Mean	1.275092636
STV	57.36869119

OCTOBER 2021	
Sampling Date	Enterococci (MPN/100mL)
10/4/21	10
10/12/21	31
10/18/21	10
10/21/21	249
10/22/21	15531
10/23/21	278
10/24/21	24196
10/25/21	9208
10/26/21	789
10/27/21	20
Log Mean	2.506882114
STV	15810.65509

NOVEMBER 2021	
Sampling Date	Enterococci (MPN/100mL)
11/1/21	31
11/8/21	10
11/9/21	1515
11/10/21	52
11/15/21	10
11/22/21	10
11/29/21	10
Log Mean	1.483968239
STV	326.1342066

DECEMBER 2021	
Sampling Date	Enterococci (MPN/100mL)
12/6/21	10
12/7/21	20
12/13/21	26308
12/14/21	14097
12/15/21	3083
12/16/21	20597
12/17/21	12141
12/18/21	20
12/19/21	10
12/20/21	85
12/21/21	10
12/22/21	191
12/23/21	18412

JANUARY 2022	
Sampling Date	Enterococci (MPN/100mL)
1/3/22	10
1/10/22	120
1/11/22	10
1/18/22	121
1/19/22	10
1/20/22	10
1/31/22	98
Log Mean	1.450456099
STV	148.5004982

FEBRUARY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
2/7/22	10
2/14/22	10
2/22/22	74
2/28/22	10
<i>Log Mean</i>	1.21730793
STV	59.49568406

12/24/21	28222
12/25/21	10
12/26/21	719
12/27/21	379
12/28/21	41
12/29/21	10
<i>Log Mean</i>	2.528031552
STV	21312.84394

MARCH 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
3/7/22	10
3/14/22	10
3/21/22	10
3/28/22	10
<i>Log Mean</i>	1
STV	10

APRIL 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
4/4/22	10
4/11/22	20
4/18/22	10
4/25/22	20
<i>Log Mean</i>	1.150514998
STV	23.62252276

MAY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
5/2/22	10
5/9/22	10
5/16/22	10
5/23/22	20
5/31/22	10
<i>Log Mean</i>	1.060205999
STV	17.09207828

JUNE 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
6/6/22	10
6/14/22	10
6/21/22	10
6/27/22	10
<i>Log Mean</i>	1
STV	10

JULY 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
6/5/22	10
6/11/22	10
6/18/22	10
6/25/22	10
<i>Log Mean</i>	1
STV	10

AUGUST 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
8/1/22	10
8/8/22	10
8/15/22	10
8/22/22	20
8/29/22	10
<i>Log Mean</i>	1.060205999
STV	17.09207828

SEPTEMBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
9/6/22	31
9/12/22	10
9/19/22	121

OCTOBER 2022	
<u>Sampling Date</u>	<u>Enterococci</u> <u>(MPN/100mL)</u>
10/3/22	10
10/11/22	10
10/17/22	10
10/24/22	10

9/20/22	10
9/21/22	10
9/22/22	10
9/26/22	31
Log Mean	1.29507268
STV	67.65557767

10/31/22	10
Log Mean	1
STV	10

DECEMBER 2022	
Sampling Date	Enterococci (MPN/100mL)
12/5/22	3448
12/6/22	31
12/12/22	228
12/13/22	10
12/19/22	41
12/27/22	18417
12/28/22	1931
12/29/22	191
12/30/22	393
12/31/22	7598
Log Mean	2.630677402
STV	10642.04092

NOVEMBER 2022	
Sampling Date	Enterococci (MPN/100mL)
11/7/22	63
11/14/22	10
11/21/22	10
11/28/22	10
Log Mean	1.199835137
STV	51.54807237

FEBRUARY 2023	
Sampling Date	Enterococci (MPN/100mL)
2/6/23	10
2/13/23	20
2/21/23	10
2/24/23	26031
2/25/23	7898
2/26/23	132
2/27/23	110
2/28/23	816
Log Mean	2.335961844
STV	10121.62016

JANUARY 2023	
Sampling Date	Enterococci (MPN/100mL)
1/1/23	1982
1/2/23	3078
1/3/23	148
1/4/23	696
1/5/23	13568
1/6/23	1574
1/7/23	120
1/8/23	350
1/9/23	18258
1/10/23	31919
1/11/23	2862
1/12/23	7639
1/13/23	168
1/14/23	29981
1/15/23	846
1/16/23	24637
1/17/23	1263
1/18/23	86
1/19/23	30
1/20/23	20
1/21/23	63
1/22/23	31
1/23/23	31
1/30/23	63
Log Mean	2.844699701
STV	16319.30772

MARCH 2023	
Sampling Date	Enterococci (MPN/100mL)
3/1/23	216
3/2/23	10
3/6/23	158
3/7/23	10
3/10/23	4409
3/11/23	4834
3/12/23	99
3/13/23	63
3/14/23	48967
3/15/23	14652
3/16/23	31

APRIL 2023	
Sampling Date	Enterococci (MPN/100mL)
4/1/23	10
4/3/23	10
4/10/23	10
4/17/23	10

3/17/23	10
3/19/23	239
3/20/23	256
3/21/23	52
3/22/23	23415
3/23/23	5897
3/24/23	134
3/25/23	41
3/26/23	10
3/27/23	10
3/29/23	38422
3/30/23	1840
3/31/23	56
Log Mean	2.45767235
STV	11253.47956

4/24/23	10
Log Mean	1
STV	10

MAY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
5/1/23	10
5/8/23	10
5/15/23	10
5/22/23	10
5/30/23	10
Log Mean	1
STV	10

JUNE 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
6/5/23	10
6/12/23	10
6/20/23	10
6/26/23	10
Log Mean	1
STV	10

JULY 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
7/3/23	31
7/10/23	20
7/17/23	10
7/24/23	10
7/31/23	10
Log Mean	1.158478338
STV	28.16748679

AUGUST 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
8/7/23	131
8/8/23	10
8/14/23	10
8/22/23	10
8/28/23	41
Log Mean	1.34601103
STV	54.80314506

SEPTEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
9/5/23	10
9/11/23	24196
9/12/23	10
9/18/23	10
9/25/23	10
Log Mean	1.676748715
STV	4137.548283

OCTOBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
10/2/23	10
10/10/23	31
10/17/23	10
10/23/23	121
10/24/23	10
10/30/23	20
Log Mean	1.31252951
STV	72.77416488

NOVEMBER 2023	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
11/6/23	10
11/13/23	10
11/18/23	6454
11/19/23	2737
11/20/23	30
11/21/23	10
11/22/23	10
11/27/23	20
Log Mean	1.753156876
STV	1801.824552

DECEMBER 2023	
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<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
12/4/23	10
12/11/23	10
12/18/23	631
12/18/23	72999
12/19/23	20115
12/20/23	42262
12/21/23	7390
12/22/23	99
12/23/23	86
12/24/23	10
12/25/23	10
12/26/23	10
12/30/23	13236
12/31/23	6273
<i>Log Mean</i>	2.942568874
STV	72451.83457

FEBRUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
2/1/24	19863
2/2/24	1553
2/3/24	201
2/4/24	24196
2/5/24	9804
2/6/24	5475
2/7/24	86
2/8/24	108
2/9/24	20
2/12/24	31
2/20/24	20
2/21/24	17329
2/22/24	504
2/23/24	41
2/26/24	20
<i>Log Mean</i>	2.654820343
STV	15956.00718

JANUARY 2024	
<u>Sampling Date</u>	<u>Enterococci</u> (MPN/100mL)
1/1/24	426
1/2/24	10
1/8/24	10
1/14/24	15164
1/15/24	3702
1/16/24	213
1/17/24	150
1/18/24	92
1/19/24	72
1/20/24	250
1/21/24	189
1/22/24	41655
1/23/24	5407
1/24/24	74
1/25/24	41
1/26/24	74
1/27/24	10
1/28/24	10
1/29/24	10
<i>Log Mean</i>	2.214869663
STV	4344.740495

*Note: CSD data has not yet been reported

Table 3-1: Water Quality Objectives for Bacteria ^a

Beneficial Use	Fecal Coliform ^a (MPN/100mL)	Total Coliform ^a (MPN/100mL)	Enterococcus (CFU/100mL) ^g	E. coli (CFU/100mL) ^g
Water Contact Recreation			geometric mean < 30 STV < 110	geometric mean < 100 STV < 320
Shellfish Harvesting ^b	median < 14 90th percentile < 43	median < 70 90th percentile < 230 ^c		
Non-contact Water Recreation ^d	mean < 2000 90th percentile < 4000			
Municipal Supply: Surface Water ^e	geometric mean < 20	geometric mean < 100		
Municipal Supply: Groundwater		< 1.1 ^f		

Notes:

- a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.
- b. Source: National Shellfish Sanitation Program.
- c. Based on a five-tube decimal dilution test or 300 MPN/100 ml when a three-tube decimal dilution test is used.
- d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.
- e. Source: California Department of Public Health recommendation.
- f. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21(f), revised June 10, 1992, are acceptable.
- g. Numeric values are from Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California based on Section 7958 of Title 17 of the California Code of Regulations, 69FR 67217 et seq., and 40 CFR Part 131.41 (effective date December 16, 2004). The Enterococcus objective applies to marine and estuarine waters where the salinity is greater than 1 part per thousand more than 5 percent of the time. The E. coli objective applies to freshwaters where the salinity is equal to or less than 1 part per thousand 95 percent or more of the time. The geometric mean for enterococcus and E. coli is computed weekly for all samples in a 6-week interval.

There is no fecal coliform objective to protect water contact recreation for inland surface waters, enclosed bays, or estuaries, but a fecal coliform objective protecting this use remains in the California Ocean Plan.

The STV is the statistical threshold value and shall not be exceeded by more than 10 percent of the samples collected in a calendar month.

The units CFU denote colony forming units. This unit of measurement is equivalent to MPN (most probable number). The use of either MPN or CFU is based on the method used to detect bacteria, and both are valid measures of bacteria density.



March 2023, floating trash during discharge from 6th and Berry outfall, photo SFPUC.



December 2023 – post discharge trash and fecal material in Mission Creek, photo Baykeeper.